Hampshire Services
HIAS SCHOOL IMPROVEMENT

SERVICES FOR SCHOOLS

Assessment Guidance for Primary Schools

Summer 2021

Hampshire County Council

www.hants.gov.uk

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Introduction

The HIAS assessment, English, and mathematics teams have developed this guidance to support schools with assessment in the remainder of the school year. Primarily, it aims to influence how assessment can be used to shape the curriculum and support transition into the next academic year.

The document is based on the principles that assessment should be:

- complementary to and supportive of learning
- valid
- consistent and reliable
- fit for purpose and manageable
- supportive of teachers' professional judgements
- inclusive and equitable

The document is organised in 2 sections:

1. The first section is designed to be used to support formative assessment to inform curriculum planning through the summer term and to establish priorities for the autumn term.
2. The second section supports schools in undertaking meaningful summative assessment at the end of the summer term to inform reporting requirements and begin to identify additional interventions in the autumn term.

Purpose

Recognising the inconsistent experiences of children this year, and the remaining time before the summer break, teachers will need to chart an achievable curriculum, informed by diagnostic assessment and focused on the most important areas that will support transition into the next academic year.

It will not be possible (or desirable) to try to formally assess everything you would normally have considered as part of a secure summative assessment of the entire curriculum. However, we hope the materials will be a support in helping schools determine the curriculum expectations to aim for by the end of the current year, for almost all children.

We have termed this expectation the “minimum sufficiency” that represents the breadth and depth of curriculum knowledge (skills, understanding and behaviours) that will enable children to progress into the adapted autumn curriculum for children in the next year group. This expectation is neither indicative of the usual curriculum breadth nor the typical curriculum mastery that would have been achieved in previous years but will support any catch-up required over the course of next year.

Section 1 – Material to support formative assessment and curriculum planning.

Section 1 is a formative tool to support ongoing assessment and planning. It is designed to be more diagnostic than evaluative. The format of the English and mathematics documents is slightly different but the principles underpinning them are the same. The documents identify which knowledge, skills, and behaviours, if **sufficiently** secure, will provide a bridge into the autumn term. The HIAS English and mathematics teams have identified smaller steps that support progression towards minimum sufficiency, as indicated in these examples.

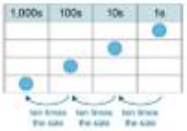
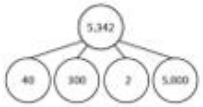
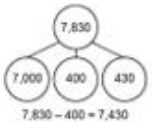
Section 1 – Suggested knowledge, skills and behaviours (summer 2021)

Year 3 Writing

Knowledge, Skills and Behaviours	Summer Term		
	Step 1	**Step 2**	**Step 3**
Discuss the purpose and form of their writing	*Identify the purpose of writing and the desired effect on the reader*	*Discuss vocabulary and grammar in writing similar to that which they are planning to write*	*Select an appropriate form for writing based on purpose and audience*
Organise narrative and non-narrative writing into logical chunks, using subheadings where appropriate	*Develop a simple narrative across a series of paragraphs – beginning / middle / end*	*Plan and write a series of simple topic paragraphs*	*Use subheadings to identify the topic / theme of writing*
Writing shows an increasing use of varied sentence structure	*Use fronted adverbials for when / where*	*Understand the function of the comma after a fronted adverbial*	*Use simple, compound and complex sentence structures*

The reading and writing documents identify the key skills, knowledge, and behaviours that children would need to sufficiently access the next year group's curriculum.

For each statement, the HIAS English team have identified up to three steps that support progression towards minimum sufficiency.

Number and Place Value			
ARE Year 3 RTPs	**Summer Term 2021**		**ARE RTPs Year 4**
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.	Able to make a unit of 1 thousand out of 10 units of 100, for example using 10 bundles of 100 straws to make 1,000, or using ten 100-value place-value Counters and thinking about repeated addition  Know that numbers such as 1,800 and 3,000 are multiples of 100, because they are each equal to a whole number of hundreds.	Understand and use place value charts to explain 1000 is 10 times the size of 100 	**4NPV–1** Know that 10 hundreds are equivalent to 1 thousand, and that 1,000 is 10 times the size of 100; apply this to identify and work out how many 100s there are in other four-digit multiples of 100.
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.	Compose and decompose four -digit numbers using standard partitioning 	Compose and decompose four -digit numbers using non-standard partitioning 	**4NPV–2** Recognise the place value of each digit in *four*-digit numbers, and compose and decompose *four*-digit numbers using standard and non-standard partitioning.

Previous year group RTPs

Two summer term 'steps' towards developing 'sufficiency' in RTP.

Current year group RTPs

These documents should be used as a formative assessment tool to support planning in the summer term. They can be used to support diagnostic assessment of children's understanding and help identify gaps, which in turn can inform planning, catch-up work, and interventions. They should not be used be used as a tool to formally track progress nor as a summative record of achievement since they do not represent a complete curriculum picture.

Whilst they are designed specifically with the summer term 2021 in mind, curriculum recovery planning will undoubtedly be a focus well into the next academic year and therefore the documents may also be useful in the autumn term.

They are not intended to be a learning journey or a scheme of learning but will support the planning of these important elements.

Section 2 – Material to support summative assessment at the end of the summer term.

A set of descriptors for reading, writing and mathematics for each year group has been created to support summative assessment at the end of the summer term.

The descriptors summarise the aspects of the year group curriculum that lie at the heart of 'sufficiency'. They articulate minimum skills and knowledge that children will need to access the next year group's curriculum, with no more than the typical adaptations made for all their peers. The mathematics document also includes a descriptor with additional content outlining what children may have 'typically' achieved in a normal year. This 'typical' descriptor is for comparison and to aid planning for next year.

The descriptors form the basis of a meaningful end of year summative view of achievement for both individuals and cohorts in the current context. They will help determine which children have not yet secured the minimum sufficiency within the year group curriculum and identify which aspects of curriculum (sufficiency) are weaker for groups of pupils. The descriptors are cumulative, and teachers may need to refer back to previous year group descriptors/expectations when making assessments for some pupils.

Used alongside the formative assessment and planning tool (Section 1) they will help to focus curriculum objectives for learning journeys. It is important that schools do not adopt a 'tick list' approach but look at the descriptors holistically. These are the minimum requirements for well-rounded curriculum achievement in the subject area.

The descriptors are not designed to be used for accountability purposes, but to inform strategic planning of the curriculum, interventions, and differentiated support. As the descriptors do not include all aspects of the curriculum, teachers should note differences and omissions compared with the assessment framework normally used by the school to inform planning for autumn term.

It will be vital for schools to share any aspects that have not been covered by the end of the year with receiving teachers/schools. The descriptors could also be useful when reporting to parents, and more guidance will be published on this later in the school year.

Section 1 - Formative Assessment and Planning Tool

English – Reading and Writing

Overview

The reading and writing documents identify the key skills, knowledge, and behaviours that children would need to sufficiently access the next year group's curriculum. These statements have been drawn from the national curriculum with the wording of some adjusted to provide greater clarity.

For each statement, the HIAS English team have identified up to three steps that support progression towards minimum sufficiency.

This document is **not intended to be a learning journey or a scheme of learning**. It is a statutory requirement that the whole of the English national curriculum is taught.

Reading

Year 1 Reading

Assessment guidance: suggested knowledge, skills and behaviours (summer 2021)

Knowledge, Skills and Behaviours	Summer Term		
	Step 1	**Step 2**	**Step 3**
Use phonics as a primary approach to reading	*Apply phonics to non-words in reading eg alien words*	*Read a range of decodable texts based on known phonemes*	*Read aloud accurately decodable books that do not require them to use other strategies to work out words*
Recognise graphemes and associated phonemes, blending through words to decode	*Segment words into phoneme frames to identify known GPCs and then blend together*	*Annotate words with sound buttons and lines*	*Blend across phonemes left to right to read correctly real and alien words*
Recognise and read common exception words	*Read individual CEW words out of context*	*Read individual CEW words in context*	*Notice similarities / differences between CEW already taught*
Listen to texts read aloud, joining in and asking questions	*Join in with predictable phrases, eg "I'll huff and I'll puff …"*	*Join in with recurring literary language*	*Ask 'what' and 'why' questions linked to the text*
Make simple predictions based on what has happened so far	*Make predictions based on the title*	*Choose an appropriate prediction when given two or three possibilities to choose from*	*Create short improvisations that continue an event / story*
Learn familiar stories by heart	*Use story props to support retelling*	*Follow a story map to support a retelling*	
Participate in discussions about what is read	*Express likes and dislikes about a text*	*Refer to pictures / diagrams to support opinions*	*Initiate discussions from shared reading experiences and have conversations with other pupils*

Year 2 Reading

Assessment guidance: suggested knowledge, skills and behaviours (summer 2021)

Knowledge, Skills and Behaviours	Summer Term		
	Step 1	**Step 2**	**Step 3**
Read most words quickly and accurately, using phonics as the primary strategy for unfamiliar words	*Read a wider range of texts, including non-fiction*	*Hear individual syllables and apply phonic knowledge to read each syllable*	*Read polysyllabic words*
Use self-correction strategies when monitoring comprehension	*Notice when a word has been missed or read incorrectly*	*Notice when a word has been missed or read incorrectly, correcting and rerunning the sentence*	*Read on from unknown words to use context clues within the whole sentence*
Retell a range of familiar stories, traditional tales and fairy stories	*Orally retell stories read by someone else*	*Orally retell stories read by themselves*	
Locate key information within a text	*Use contents to locate information*	*Use headings to locate information*	*Read on when searching for specific information*
Make simple inferences based on what has been read	*Infer from images with simple text*	*Build simple inferences using two pieces of information from the text*	*Combine ideas in the text with their prior knowledge to build simple inferences*
Explain and discuss their understanding of what has been read	*Express and justify personal responses to reading, eg 'I think…because…'*	*Listen and respond to ideas of others*	

Year 3 Reading

Assessment guidance: suggested knowledge, skills and behaviours (summer 2021)

Knowledge, Skills and Behaviours	Summer Term		
	Step 1	**Step 2**	**Step 3**
Use growing knowledge of root words, prefixes and suffixes to read aloud and build understanding	*Recognise words within words*	*Break words into known morphemes*	
Locate and retrieve key information	*Scan for key words*	*Use headings, contents and indices to locate information*	
Predict what might happen from details stated and implied	*Notice relevant information and activate prior knowledge to justify predictions*	*Confirm or reject predictions as the text is read*	
Make simple inferences relating to characters' thoughts and feelings	*Combine information from the text related to characters' feelings*	*Combine information from the text related to characters' thoughts*	*Combine prior knowledge with that in the text*
Discuss personal responses to a wide range of reading	*Explain what type of book they are choosing to read and why*	*Demonstrate understanding of what they have read and express a personal opinion*	*Articulate personal preferences*
Identify simple themes within familiar stories	*Make connections between books they have read eg books with similar characters, settings, plots*	*Explain the big idea / message in a story*	*Group familiar books by theme*

Year 4 Reading

Assessment guidance: suggested knowledge, skills and behaviours (summer 2021)

Knowledge, Skills and Behaviours	Summer Term		
	Step 1	**Step 2**	**Step 3**
Check understanding of word meaning in context	*Notice homographs and self-correct based on context – eg live/live or read/read*	*Suggest meanings for unfamiliar words based on context*	*Use a dictionary to check if still unsure*
Show understanding through intonation, tone and volume when reading aloud	*Use punctuation as a cue to expression*	*Read with varied expression, responding to the text*	
Retrieve and record key information	*Scan a text for key words and phrases*	*Scan a text for key words and phrases, and make notes*	
Make sound inferences, justifying these with evidence from the text	*Identify cause and effect, eg where an event led to a specific behaviour or reaction*	*Discuss the evidence for their inference, quoting from the text*	
Identify key information within a text	*Notice the main point of each paragraph or section*	*Skim a whole text for the gist, eg "this article is against building more roads"*	
Discuss words and phrases that engage the reader's interest and imagination	*Mark text to identify words or phrases that interest them*	*Discuss with another pupil why a word or phrase has interested them*	
Discuss personal responses to a wider range of reading	*Articulate personal preferences*	*Justify opinions with evidence from the text*	*Listen to other viewpoints*

Year 5 Reading

Assessment guidance: suggested knowledge, skills and behaviours (summer 2021)

Knowledge, Skills and Behaviours	Summer Term		
	Step 1	**Step 2**	**Step 3**
Ask questions to enhance understanding at the point of reading	*Ask questions in discussion with another pupil*	*Ask questions to clarify understanding at the point of reading*	
Make comparisons within and across books	*Compare characters within the same text*	*Identify texts with similar themes*	*Compare and contrast themes across texts*
Draw sound inferences relating to characters' feelings, thoughts and motives, justifying these with evidence from the text	*Discuss characters' motives*	*Make inferences relating to characters' motives, justifying these with evidence from the text*	*Record evidence for inferences made, quoting from the text*
Identify fact and opinion within a text	*Sort statements of fact and opinion*	*Discuss what statements of fact and opinion can reveal about an author's views*	
Identify key details across more than one paragraph	*Record the key details/events from a narrative*	*Summarise the key details/events from a narrative*	
Share preferences for reading and make recommendations to others	*Share a favourite author and discuss why they enjoy their books*	*Recommend a text to a friend, drawing, for example, on genre, character and setting*	

Year 6 Reading

Assessment guidance: suggested knowledge, skills and behaviours (summer 2021)

Knowledge, Skills and Behaviours	Summer Term		
	Step 1	**Step 2**	**Step 3**
Discuss and evaluate how the author's use of language impacts on the reader	*Discuss an author's use of figurative language and the image the reader gains from this*	*Discuss how the author indicates different levels of formality in a text*	
Identify how language, structure and presentation contribute to meaning	*Identify how vocabulary choice creates a desired effect in a piece of writing*	*Discuss ingredients that create a desired effect, eg short sentences and ellipsis*	*Discuss the role of structural and presentational devices in fiction and non-fiction texts*
Draw sound inferences relating to characters' feelings, thoughts and motives, justifying these with evidence	*Answer inference questions orally, using evidence and quotations from the text*	*Answer inference questions in written form, using evidence and quotations from the text*	
Provide a succinct summary, paraphrasing the main ideas across a text	*Record the key details/points from narrative and non-fiction texts*	*Record the key details/points from narrative and non-fiction texts in a paragraph summary*	
Share preferences for reading and make recommendations to others	*Make a written recommendation of a text*	*Express preferences for genre, citing examples*	
Express personal opinions and discuss these with others	*Discuss a favourite moment/section of a text and give reasons*	*Engage in dialogue about a text, adding to ideas*	*Engage in dialogue about a text, courteously challenging ideas*

Writing

Year 1 Writing

Assessment guidance: suggested knowledge, skills and behaviours (summer 2021)

Knowledge, Skills and Behaviours	Summer Term		
	Step 1	**Step 2**	**Step 3**
Compose sentences orally	*Orally compose a simple sentence starting with a pronoun, eg 'He is cold'*	*Re-phrase a sentence to add additional detail using 'and, eg 'He is cold and frightened'*	*Orally compose a compound sentence and omit the second pronoun eg 'Thomas went to the shop and bought cake'*
Write simple sentences	*Organise word cards into a simple sentence*	*Keep track of their place in a sentence while writing it after oral rehearsal*	*Correctly transcribe the orally rehearsed sentence*
Sequence sentences into a short narrative	*Orally retell a familiar event or story in chronological order*	*Add sentences to pictures to form a short narrative*	
Begin to include appropriate detail for the reader	*Understand simple purpose for writing*	*Discuss what a reader might want to know*	*Make choices relating to content*
Use capital letters and full stops in their writing	*Identify and recognise a full stop and capital letter in print*	*Orally rehearse a sentence and identify the start / end punctuation needed*	*Use full stops and capital letters to demarcate sentences in short narrative of more than one sentence*
Begin to use coordinating conjunctions to link ideas	*Understand the function of coordinating conjunctions to join related clauses*	*Join two separate (supplied) sentences / clauses using 'and / but / so' in an order that makes sense*	*Write sentences using coordinating conjunctions to join related clauses*
Read what they have written to check it makes sense	*Identify where supplied sentences with intentional errors lose sense*	*Identify where their own writing loses sense when it is read aloud to them*	*Make corrections to their own sentences so that they make sense*
Use phonics to support their spelling	*Orally segment known and new words*	*Order phonemes to create spellings of words after oral segmenting*	

Year 2 Writing

Assessment guidance: suggested knowledge, skills and behaviours (summer 2021)

Knowledge, Skills and Behaviours	Summer Term		
	Step 1	**Step 2**	**Step 3**
Sequence ideas to form short narrative and non-narrative writing	*Orally retell a story or event*	*Use simple planning structures to capture ideas for planning*	*Develop ideas across a series of sentences*
Writing is coherent	*Use time markers to sequence ideas*	*Use linked nouns and pronouns to avoid repetition eg the giant, he, they*	*Maintain a consistent verb tense*
Write statements and questions as required in different forms of writing	*Ask questions and make statements orally linked to a theme / known context*	*Write questions using question starters and punctuate correctly with a CL and question mark*	*Write a statement with correct subject verb agreement and punctuate correctly with a CL and full stop*
Extend ideas within sentences through the use of coordinating and subordinating conjunctions	*Write compound sentences deciding which conjunction to use to link ideas*	*Orally rehearse sentences with subordination*	*Write sentences with subordination eg because / when / if*
Include appropriate detail for the reader	*Discuss what the reader would need to gain from the writing*	*Identify and use vocabulary linked to purpose and audience*	*Use adventurous vocabulary appropriate to task*
Proof-read for spelling and punctuation errors	*Re-read writing and notice spelling and punctuation errors*	*Use phoneme charts or word mats to edit incorrect spelling*	*Identify where punctuation needs to be changed or inserted to make sense of their writing*
Use CL, FS, ? to demarcate sentences	*Identify where capital letters are needed for names and at the beginning of sentences*	*Identify where full stops are needed at the end of sentences*	*Identify where a question mark is needed to punctuate a sentence*
Use known phonics and class-based resources to support the spelling of unfamiliar words when writing	*Recognise when a word does not look 'right' when compared to a text or resource*	*Use resources to make 'best guess' choices of graphemes to represent vowel phonemes*	*Check common misspellings using resources supplied or created*

Year 3 Writing

Assessment guidance: suggested knowledge, skills and behaviours (summer 2021)

Knowledge, Skills and Behaviours	Summer Term		
	Step 1	**Step 2**	**Step 3**
Discuss the purpose and form of their writing	*Identify the purpose of writing and the desired effect on the reader*	*Discuss vocabulary and grammar in writing similar to that which they are planning to write*	*Select an appropriate form for writing based on purpose and audience*
Organise narrative and non-narrative writing into logical chunks, using subheadings where appropriate	*Develop a simple narrative across a series of paragraphs – beginning / middle / end*	*Plan and write a series of simple topic paragraphs*	*Use subheadings to identify the topic / theme of writing*
Writing shows an increasing use of varied sentence structure	*Use fronted adverbials for when / where*	*Understand the function of the comma after a fronted adverbial*	*Use simple, compound and complex sentence structures*
Develop characters and settings through careful vocabulary choices	*Use expanded noun phrases with modifying adjectives*	*Vocabulary moves from generic to specific eg dog becomes dalmatian*	*Use precise verb choice*
Develop ideas across a coherent series of linked sentences	*Vary nouns and pronouns to avoid repetition and aid cohesion*	*Accurate use of irregular simple past-tense verbs eg awake / awoke*	
Proof-read for spelling and punctuation errors	*Identify CEW and topic vocabulary errors in writing using class-based resources to correct*	*Check and correct errors relating to known spelling rules and patterns*	*Check and correct start / end punctuation errors*
Use the first two or three letters of a word to check its spelling in a dictionary	*Use an alphabet line to support finding a given word in a dictionary*	*Locate a given first letter and identify the following one or two*	*Compare own spelling to that of the dictionary and correct as required*

Year 4 Writing

Assessment guidance: suggested knowledge, skills and behaviours (summer 2021)

Knowledge, Skills and Behaviours	Summer Term		
	Step 1	**Step 2**	**Step 3**
Identify the purpose and form of their writing	*Identify the effect of vocabulary and grammar in writing similar to that they are planning to write*	*Make considered vocabulary and grammar choices linked to purpose and form*	*Evaluate the effectiveness of their own writing linked to purpose and form*
Use paragraphs to organise writing	*Use topic paragraphs with main ideas supported by subsequent sentences*	*Use paragraphs in non-narrative to indicate a change of topic*	*Use paragraphs in narrative to indicate a change in time / place / person*
Writing is cohesive and ideas are connected through the use of nouns, pronouns and adverbials	*Use nouns and pronouns appropriately for clarity*	*Use conjunctions to express time and cause for cohesion*	*Use adverbs and prepositions to express time and cause for cohesion*
Manipulate ideas within sentences by varying clause structures	*Use fronted subordination*	*Manipulate clauses within a sentence and evaluate the effect*	*Use an increasing range of sentence length and structure*
Description and detail in narrative and non-narrative writing is expanded through an appropriate and precise range of vocabulary	*Use expanded noun phrases with the addition of a preposition phrase*	*Propose changes to vocabulary to increase precision and detail*	
Develop plot through the expansion of events	*Identify essential content and where the writer needs to linger / provide more detail for the reader*	*Use oral rehearsal and talk to expand detail and description*	*Use planning structures to support the development of paragraph content*
Use inverted commas to indicate direct speech	*Add inverted commas to given dialogue*	*Identify end punctuation within the inverted commas in reading*	*Use inverted commas to indicate direct speech when writing*
Proof-read for spelling and punctuation errors	*Check for and correct errors relating to known spelling rules and patterns using class-based resources*	*Identify and correct commas for clarity eg after a fronted adverbial*	*Regularly follow known spelling rules for adding affixes when writing*

Year 5 Writing

Assessment guidance: suggested knowledge, skills and behaviours (summer 2021)

Knowledge, Skills and Behaviours	Summer Term		
	Step 1	**Step 2**	**Step 3**
Discuss the purpose, audience and form of their writing, referring to similar writing as models for their own	*Explore texts they have read, commenting on the impact on the reader*	*Identify the key skills an author has used to create a specific impact on the reader and discuss these*	*Draw on what they have read as a model for their own writing*
Writing has a logical structure with ideas developed within paragraphs and linked across a series of paragraphs	*After noting initial ideas, plan and write coherent pieces of text, using paragraphs to structure content*	*Produce internally coherent paragraphs, linking sentences to develop content*	*Link ideas across paragraphs using adverbials of time and place*
Develop characters, settings and atmosphere through appropriate grammar and vocabulary choice	*Use expanded noun phrases to convey information with increasing precision*	*Use figurative language (eg similes and alliteration) to describe characters and settings*	*Make increasingly deliberate vocabulary choices to support and enhance meaning for the reader*
Demonstrate a considered use of clause structures, understanding how such choices can enhance meaning	*Use fronted prepositional phrases*	*Vary the position of clauses within a sentence*	*Edit and improve sentences to enhance meaning*
Ensure the consistent use of tense throughout writing	*Maintain both past and present tense throughout a coherent narrative*	*Choose when appropriate to write within past or present tense and maintain this across a piece of writing*	*Proofread own writing, noticing errors in tense*
Proof-read for spelling and punctuation errors	*Recognise a spelling or punctuation error when proof reading*	*After reading aloud, notice errors in punctuation and self-correct*	*Independently correct spellings using a dictionary or other classroom resources*
Evaluate the effectiveness of their writing and edit as required	*Explain choices at word and sentence level*	*After evaluating their own writing, make enhancements and improvements and explain their decision making*	*Compare their own writing with that which they have drawn upon*

Year 6 Writing

Assessment guidance: suggested knowledge, skills and behaviours (summer 2021)

Knowledge, Skills and Behaviours	Summer Term		
	Step 1	**Step 2**	**Step 3**
Identify the purpose, audience and form of their writing, selecting the appropriate form and using other similar writing as models for their own	*Identify the audience and purpose of the writing and discuss intended effect on the reader*	*When planning, identify the range of writing features that will achieve the intended effect*	*Write effectively for a range of different purposes and audiences, adapting to achieve the desired impact*
Use organisational and presentational devices to structure text and guide the reader	*Use headings, subheadings, underlining and other forms of emphasis to draw attention*	*Use organisational features such as bullet points and columns to arrange content*	
Recognise how writing requires differing levels of formality and how these are achieved through considered vocabulary and grammar choices	*Recognise the difference between vocabulary and language structures typical of informal and formal writing*	*Select and use vocabulary and language structures that reflect the appropriate level of formality*	*Use the passive voice in non-narrative writing*
Can vary sentence structure and length for effect	*Use relative clauses*	*Write sentences with more than two clauses, correctly punctuated*	*Confidently use and manipulate a range of sentence structures for effect*
Settings, characters and atmosphere are developed through appropriate grammar and vocabulary choice	*Use considered vocabulary choices to enhance the reader's understanding*	*Make and deliberate and controlled decisions around sentence length*	
Link ideas across paragraphs using a range of cohesive devices	*Use adverbials of time and place to link within and across paragraphs*	*Use repeated words or phrases to create cohesion between paragraphs*	
Proof-read for spelling and punctuation errors	*Recognise a spelling or punctuation error when proof reading*	*After reading aloud, notice errors in punctuation and self-correct*	*Independently correct spellings using a dictionary or other classroom resources*
Evaluate the effectiveness of their writing and edit as required	*Identify where word choice does not achieve the intended impact and make changes*	*Identify where sentence structure does not achieve the intended impact and make changes*	*Explain the impact word and sentence level choices have on the overall effectiveness of writing*

Mathematics

Overview

The HIAS mathematics document can be used with any mathematics curriculum framework.

The mathematics documents link with the DfE Ready-to-Progress Criteria (RTPs) published in June 2020 DfE Maths Guidance KS1 and KS2 .These criteria identify the most important conceptual knowledge and understanding within each year group that pupils need in order to progress successfully into the following year group's curriculum.

Further guidance on use of RTPs can be found here: Support with 2020 DfE guidance | NCETM

DfE RTPs appear in greyed out boxes. The document references the RTPs for the previous year group on the left-hand side and those for the current year group in the right hand column.

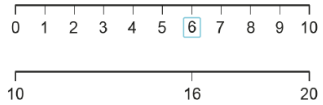
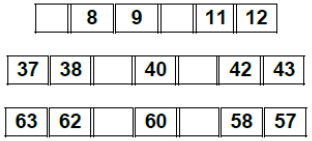
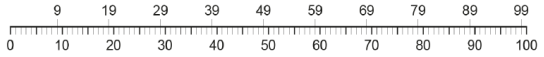
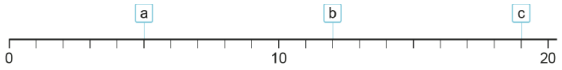
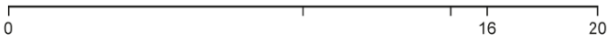
In addition, the mathematics team has included two steps for the summer term that could be targeted in the journey towards achieving the RTP criteria. These interim summer term checkpoints are in blue.

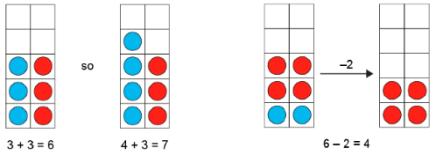
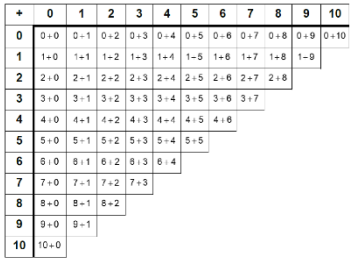
The mathematics team document includes suggested National Curriculum objectives for measure (Year 1 to Year 6) and fractions (Year 1) so that teachers are able to assess against these domains.

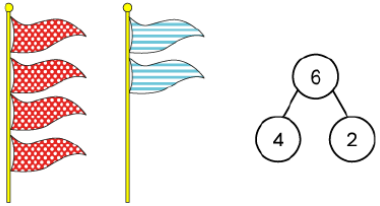
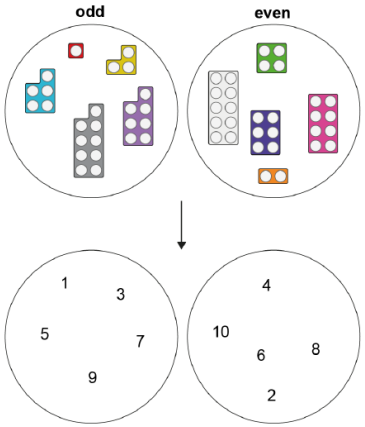
This document is **not intended to be a learning journey or a scheme of learning**. It is a statutory requirement that the whole of the mathematics national curriculum is taught.

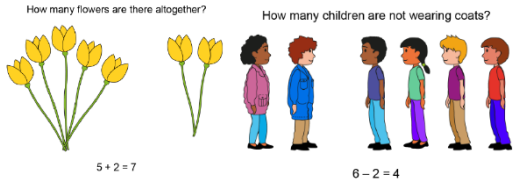
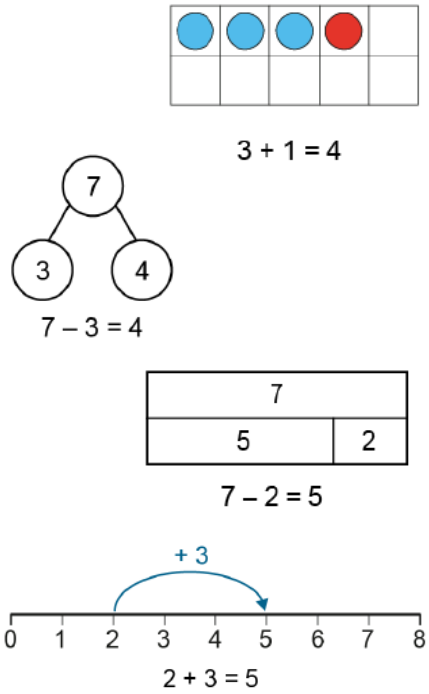
Year 1 Mathematics

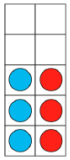
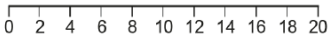
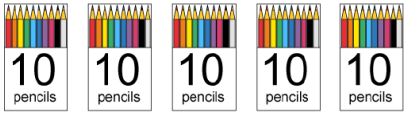
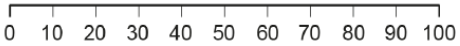
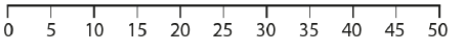
Early Learning Goals
This involves providing children with opportunities to: practise and improve their skills in counting numbers, calculating simple addition and subtraction problems describe shapes, spaces, and measures. **ELG 11 Numbers** Children count reliably with numbers from 1 to 20, place them in order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract 2 single-digit numbers and count on or back to find the answer. Solve problems, including doubling, halving and sharing. **ELG 12 Shape, space and measures** Children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems. They recognise, create and describe patterns. They explore characteristics of everyday objects and shapes and use mathematical language to describe them.

Number and Place Value			
ELGs	**Summer Term 2021**		**Year 1**
ELG 11 Numbers 1 Children count reliably with numbers from 1 to 20, place them in order and say which number is one more or one less than a given number.	Use double number lines or manipulatives to show relationships and patterns if necessary. eg 3 + 1 = 4 13 + 1 = 14  Pupils should model using manipulatives the effect of adding or subtracting one to any number.  	Count in multiples of 10 and use this to help develop understanding of patterns in the number system. Show these on a number line. Count aloud using manipulatives to represent the numbers said eg bundles of 10 straws and show these on a number line. What number would be before/after the ten? (19, 21) This focuses on regrouping where children will have the greatest difficulty.  Children should complete number tracks and grids with missing numbers.	**1NPV–1** Count within 100, forwards and backwards, starting with any number.
ELG 11 Numbers 2 Children count reliably with numbers from 1 to 20, place them in order and say which number is one more or one less than a given number.	Children should be able to order numbers to 20 by talking about the patterns and using tens and ones vocabulary. eg Sorting a set of consecutive number cards and spacing them equally. Then a random selection and being able to leave spaces where there are missing  cards and state which cards are missing.	Children should plot numbers on number lines with some ones or all multiples of tens marked. Children to start to reason and estimate the rough position of numbers on a blank number line and give reasons for their choices. eg I know …. As it is halfway between… and …. This number is just before/after….  	**1NPV–2** Reason about the location of numbers to 20 within the linear number system, including comparing using < > and =

Number Facts and Addition and Subtraction			
ELGs	**Summer term 2021**		**Year 1**
ELG 11 Numbers 3 Using quantities and objects, they add and subtract 2 single-digit numbers and count on or back to find the answer.	Relate counting on/back and finding 1 more/less. Use tens frames and part whole models to show the structure of addition (combining parts) and subtraction (removing a part or reduction by counting back).  	Children should be able to recall their number bonds to 10 and to 5 fluently and use these to work out the parts of other number to 10. This includes the effect of adding or subtracting 0. 	**1NF–1** Develop fluency in addition and subtraction facts within 10.

ELGs	Summer term 2021		Year 1
ELG 11 Numbers 4 Using quantities and objects, they add and subtract 2 single-digit numbers and count on or back to find the answer.	Pupils should partition numbers systematically and talk about part and whole. Pupils should have some understanding of addition and subtraction being inverse operations  	Children should reason verbally using diagrams based on practical experiences.  They should talk about patterns when adding or subtracting odd or even numbers.  	**1AS–1** Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers.

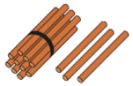
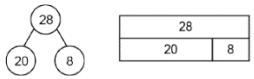
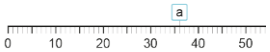
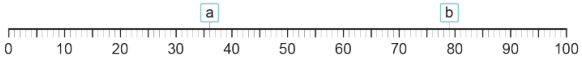
ELGs	Summer term 2021		Year 1
ELG 11 Numbers Solve problems, including doubling, halving and sharing	Children should talk about the number equations in relation to a representation or problem. Eg “There are 5 flowers in one bunch. There are 2 flowers in the other bunch. There are 7 flowers altogether.” “We can write this as 5 plus 2 is equal to 7.” “The 5 represents the number of flowers in 1 bunch.“ “The 2 represents the number of flowers in the other bunch.” “The 7 represents the total number of flowers.” 5 + 2 = 7  “There are 6 children altogether. 2 children are wearing coats. 4 children are not wearing coats.” “We can write this as 6 minus 2 is equal to 4.” “The 6 represents the total number of children.” “The 2 represents the number of children that are wearing coats.” “The 4 represents the number of children that are not wearing coats.”	Children should be able write their own number equations to match problems or pictures or select matching pairs of images and calculations.  	**1AS–2** Read, write and interpret equations containing addition (), subtraction () and equals () symbols, and relate additive expressions and equations to real-life contexts.

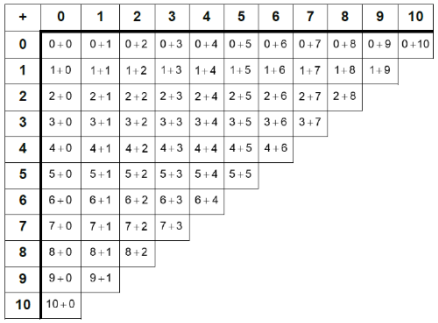
Number Facts and Multiplication and Division			
New ELGs	**Summer term 2021**		**Year 1**
ELG 11 Numbers 5 Solve problems, including doubling, halving and sharing. **ELG 12 Shape, space and measures** 6 They recognise, create and describe patterns.	Pupils should relate counting in 2s to doubling and recall some doubles of numbers (up to double 5) They should use representations of a group of objects to show the effect of doubling.  3 + 3 = 6	Pupils should skip count confidently in 2s, 5s and 10s and relate this to repeatedly adding equal groups of this size (unitising).    "Ten, twenty, thirty…" "1 group of 10, 2 groups of 10, 3 groups of 10…" In time, shortened to: "1 ten, 2 tens, 3 tens…"  Counting in 5s with number line support	**1NF–2** Count forwards and backwards in multiples of 2, 5 and 10, up to 10 multiples, beginning with any multiple, and count forwards and backwards through the odd numbers.

Fractions			
New ELGs	**Summer term 2021**		**Year 1**
ELG 11 Numbers Solve problems, including doubling, halving and sharing	Understand that in fractions all parts must be equal to show 1 part. Pupils can sort groups of representations and talk about which groups or images show equal/unequal groups. Know half = two equal parts. Can identify 'half' and 'not half' Find half of an even number (0-20) Sort simple shapes where they are split into 2 parts including examples showing parts which are not equal so they are not halves.	This includes with fractions of shapes where they are split into 2 or 4 parts but the parts are not equal, so they are not halves or quarters. Know quarters = four equal parts. Can identify four parts but not equal so not quarters. Find a quarter of an even number (0-20) Sort simple shapes where they are split into 4 parts including examples showing parts which are not equal so they are not quarters.	**National curriculum objectives** • recognise, find and name a half as one of two equal parts of an object, shape or quantity • recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.

Geometry			
ELGs	**Summer term 2021**		**Year 1**
ELG 12 Shape, space and measures They explore characteristics of everyday objects and shapes and use mathematical language to describe them	Pupils should recognise a range of 2D shapes including rectangles, squares, circles and triangles. These should be presented in different orientations, as a face of a 3D shape and within the environment. Children should distinguish shapes that are not triangles for example that are similar (plausible distractors) eg a triangle and an arrow head.	Pupils should recognise a range of 3D shapes including cubes, cuboids, cylinders, spheres and pyramids. These should be presented in different orientations, as a face of a 3D shape and within the environment. They should describe using language such as: curved, straight, sides	**1G–1** Recognise common 2D and 3D shapes presented in different orientations, and know that rectangles, triangles, cuboids and pyramids are not always similar to one another.
ELG 12 Shape, space and measures 7 Children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems.	Pupils should use puzzles and tangrams and modelling material to match shapes together to form a larger compound shape copied from a pattern given. They should use everyday language to talk about why pieces will/won't fit. Eg words relating to size and orientation.	Pupils should make talk about the shapes they used to make a pattern and understand that they can be combined to make larger shapes and split to return to original shapes. (composition and decomposition)	**1G–2** Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations.

Year 2 Mathematics

Number and Place Value			
Year 1	**Summer Term 2021**		**Year 2**
1NPV–1 Count within 100, forwards and backwards, starting with any number.	Rote count forwards and backwards within 100 from different starting points, articulating “teen” and “ty” numbers accurately, emphasizing multiples of ten. Eg 28, 29, **30**, 31, 32, 33, 34 Eg 72, 71, **70,** 69, 68, 67, 66	Rote count forwards and backwards in tens from any number Eg 23, 33, 43, 53, 63…. Eg 89, 79, 69, 59, 49…	Count on and back in 1s and 10s from any number Eg: 24,34,44,54… 32,22,12,2
Know that 10 ones are equivalent to 1 ten. Know that multiples of 10 are made up from a number of tens, for example, 50 is 5 tens.	Recognise place value of each digit in ‘teens’ and ‘ty’ numbers. Compose and decompose using standard partitioning Eg 13 (13 = 10 +3) Eg 30 (30 = 10 + 10 + 10 or 3 “tens”) 	Recognise place value of each digit in two - digit numbers. Compose and decompose using standard partitioning Eg 57 = 50 +7 Eg 39 = 30 + 9 	**2NPV–1** Recognise the place value of each digit in two-digit numbers, and compose and decompose two-digit numbers using standard and non-standard partitioning Eg 57 = 50+7; 57= 40+17 etc
1NPV–2 Reason about the location of numbers to 20 within the linear number system, including comparing using < > and =	Reason about the location of numbers to 50 within the linear number system, including comparing using < > and = 	Reason about the location of numbers using strategies such as working backwards from multiples of 10 recognising ‘near multiples of 10’ either eg 19 or 21 	**2NPV–2** Reason about the location of any two-digit number in the linear number system, including identifying the previous and next multiple of 10.

<table>
<tr><th colspan="3">Number Facts and Addition and Subtraction</th></tr>
<tr><th>Year 1</th><th colspan="2">Summer term 2021</th><th>Year 2</th></tr>
<tr><td>.
1NF–1 Develop fluency in addition and subtraction facts within 10.</td><td>Fluent with all addition facts within 10</td><td>Fluent with all subtraction facts within 10
 
<table>
<tr><th>+</th><th>0</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th><th>9</th><th>10</th></tr>
<tr><th>0</th><td>0+0</td><td>0+1</td><td>0+2</td><td>0+3</td><td>0+4</td><td>0+5</td><td>0+6</td><td>0+7</td><td>0+8</td><td>0+9</td><td>0+10</td></tr>
<tr><th>1</th><td>1+0</td><td>1+1</td><td>1+2</td><td>1+3</td><td>1+4</td><td>1+5</td><td>1+6</td><td>1+7</td><td>1+8</td><td>1+9</td><td></td></tr>
<tr><th>2</th><td>2+0</td><td>2+1</td><td>2+2</td><td>2+3</td><td>2+4</td><td>2+5</td><td>2+6</td><td>2+7</td><td>2+8</td><td></td><td></td></tr>
<tr><th>3</th><td>3+0</td><td>3+1</td><td>3+2</td><td>3+3</td><td>3+4</td><td>3+5</td><td>3+6</td><td>3+7</td><td></td><td></td><td></td></tr>
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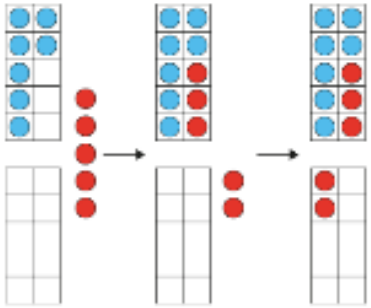
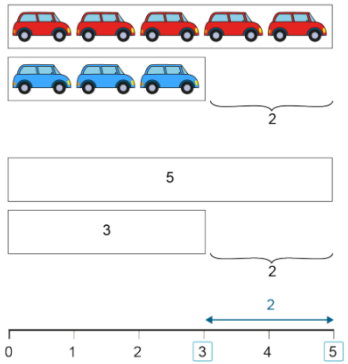
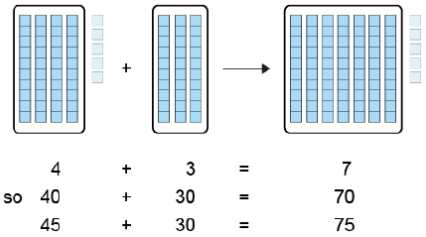
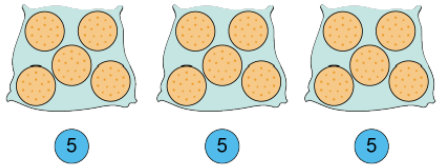
<tr><th>5</th><td>5+0</td><td>5+1</td><td>5+2</td><td>5+3</td><td>5+4</td><td>5+5</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><th>6</th><td>6+0</td><td>6+1</td><td>6+2</td><td>6+3</td><td>6+4</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><th>7</th><td>7+0</td><td>7+1</td><td>7+2</td><td>7+3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><th>8</th><td>8+0</td><td>8+1</td><td>8+2</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><th>9</th><td>9+0</td><td>9+1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><th>10</th><td>10+0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table></td><td>2NF–1 Secure fluency in addition and subtraction facts within 10, through continued practice.</td></tr>
<tr><td>1AS–1 Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers.</td><td>Recall some number facts choosing to use these facts to bridge through 10 rather than always counting in 1s
Eg 7 + 5 (partition the 5 into 2 and 3)
7 + 3 = 10
10 + 2 = 12
  </td><td>Recall most number facts and make appropriate choices depending on the numbers involved in the calculation
Eg 7 + 6 (for this, could use knowledge of near doubles, or double and adjust)
For 8 + 6, partition 6 into 2 and 4 to bridge though 10.</td><td>2AS–1 Add and subtract across 10.</td></tr>
</table>

Year 1	Summer term 2021		Year 2
1AS–2 Read, write and interpret equations containing addition (+), subtraction (-) and equals (=) symbols, and relate additive expressions and equations to real-life contexts.	Recognise the subtraction structure of 'take away' and answer questions of the form 'how many are left?'	Use bar models and number lines to show the difference between two numbers 	**2AS–2** Recognise the subtraction structure of 'difference' and answer questions of the form, "How many more…?".
Add and subtract within 10, for example: 6+3= 9 6 - 2 = 4	Add and subtract within 100 applying one- digit addition and subtraction facts Eg 4+ 3 = 7; 40 + 30 =70 Eg. 5 - 2 = 3; 50 – 30 =20 Eg 36 + 3 = 39 (because I know that 6 + 3 = 9) 56 – 2 = 54 (because I know that 6 – 2 = 4)	Use knowledge of addition and subtraction facts within 10 to solve addition and subtraction calculations within 100 	**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.
Bridge through 10 when adding or subtracting units Eg 7 + 4; 11 - 5	Apply known facts within 10 to addition calculations with any two-digit number Eg 27 + 4 (partition the 4 into 3 and 1 to bridge through 30)	Count on and back from any 2-digit number, partitioning the second number Eg 54 +27 = 54 +20 +7 Eg. 72- 23 = 72- 20 – 3	**2AS–4** Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract any 2 two-digit numbers.

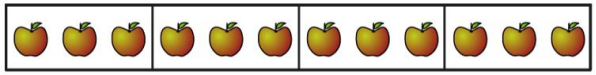
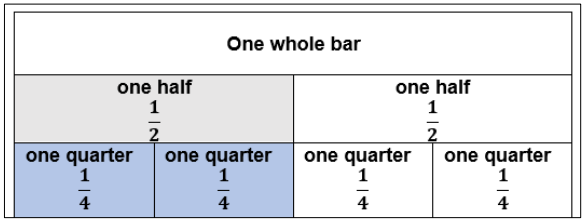
Number Facts and Multiplication and Division			
Year 1	**Summer term 2021**		**Year 2**
1NF–2 Count forwards and backwards in multiples of 2, 5 and 10, up to 10 multiples, beginning with any multiple, and count forwards and backwards through the odd numbers.	Count in multiples of 2, 5 and 10 Recognise repeated addition in 2s and represent with multiplication equations and calculating the product  2 +2 +2 +2 = 8 wheels	Recognise repeated addition in 5s and 10s and represent with multiplication equations and calculating the product  5 + 5 + 5 3 × 5 5 + 5 + 5 = 3 × 5	**2MD–1** Recognise repeated addition contexts, representing them with multiplication equations and calculating the product, within the 2, 5 and 10 multiplication tables.
National Curriculum objective Solve one step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher	Count in multiples of 2 to find how many groups of 2 there are in a particular quantity, set in everyday contexts. Use counting in 2's and knowledge of how many 2's there are in a given number to solve multiplication and division problems	Count in multiples of 2, 5 and 10 to find how many groups of 2, 5 or 10 there are in a particular quantity, set in everyday contexts. Use counting in 2's 5's and 10's and knowledge of how many multiples (of 2, 5 or 10) there are in a given number to solve multiplication  	**2MD–2** Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotitive division).

<table>
<tr><th colspan="4">Fractions</th></tr>
<tr><th>Year 1</th><th colspan="2">Summer term 2021</th><th>Year 2</th></tr>
<tr>
<td>National curriculum objectives
• recognise, find and name a half as one of two equal parts of an object, shape or quantity
• recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.</td>
<td>Recognise half, quarter and three quarters of shapes</td>
<td>Recognise half, quarter and three quarters of quantities

$\frac{1}{2}$ of 12 = 6

$\frac{1}{4}$ of 12 = 3,

I know that $\frac{1}{4} + \frac{1}{4} + \frac{1}{4} = \frac{3}{4}$

$\frac{3}{4}$ of 12 = 3+ 3 +3
 
 
</td>
<td>National curriculum objectives
• recognise, find, name and write fractions, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity
• write simple fractions for example, $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$.</td>
</tr>
</table>

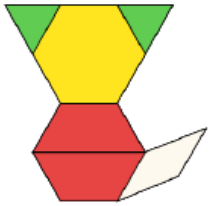
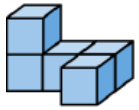
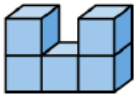
Measurement			
Year 1	**Summer term 2021**		**Year 2**
National curriculum year 1: Compare, describe and solve practical problems for : • Lengths and heights • Mass/weight • Capacity and volume • Time Measure and begin to record: • Lengths and heights • Mass/weight • Capacity and volume • Time	Compare and order lengths, mass, volume/capacity and record the results using < > and =	Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature; capacity (litres/ml) to the nearest appropriate unit,	**National curriculum year 2:** • Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature; capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels. • Compare and order lengths, mass, volume/capacity and record the results using < > and =
National curriculum year 1: Recognise and know the value of different denominations of coins and notes	Add multiples of 10p, 2p, 5p coins counting in multiples of 2, 5 and 10 Know equivalence between: 1ps and any other coin 5ps and 10p 2ps and 10p 10p and 20p / 50p £1 and 1p/ 2p/ 10p/ 20p/ 50p Represent any amount using coins	Use £ and p to combine amounts to make a value: 35p and £2 = £2.35	**National curriculum year 2:** • Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value • Find different combinations of coins that equal the same amounts of money • Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change
Recognise and use language relating to dates, including days of the week, weeks, months and years	Know number of months in the year	Know the number of minutes in an hour	• Know the number of minutes in an hour and the number of hours in a day
Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times	Tell and write the time using quarter past the hour. Draw hands on a clock to show these times.	Tell and write the time using quarter to the hour. Draw hands on a clock to show these times	• Compare and sequence intervals of time • Tell and write the time to five minutes, including quarter past / to the hour and draw the hands on a clock face to show these times

<table>
<tr><th colspan="4">Geometry</th></tr>
<tr><th>Year 1</th><th colspan="2">Summer term 2021</th><th>Year 2</th></tr>
<tr><td>1G–1 Recognise common 2D and 3D shapes presented in different orientations, and know that rectangles, triangles, cuboids and pyramids are not always similar to one another.</td><td>Use precise language to describe 2D shapes: ‘sides’; ‘vertex/ vertices’
Know a vertex is a point where two sides meet.
Know a polygon is a shape with only straight sides. Know that it is the number of sides / vertices that determines the type of polygon not their ‘mental image’ of a particular polygon.

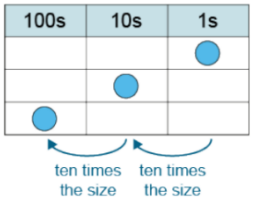
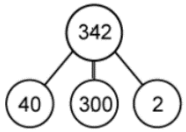
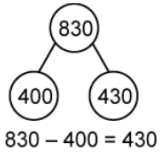
Eg This shape is a hexagon because it has 6 straight sides 

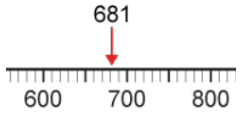
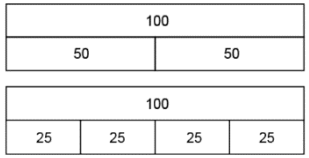
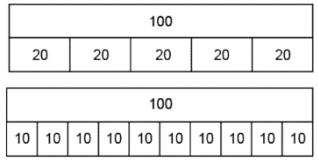
Know and use ‘irregular’ and ‘regular’ to describe standard and non- standard polygons</td><td>Use precise language to describe 3D shapes: ‘edges’, ‘vertex/ vertices’ and ‘faces’.

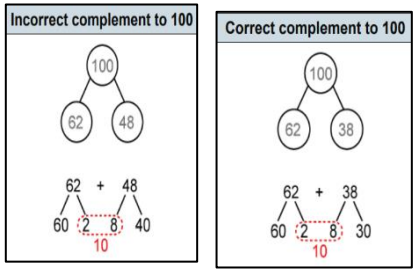
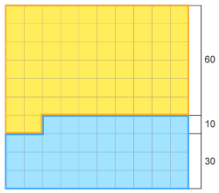
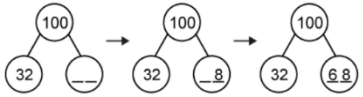
Accurately count the number of edges, vertices and faces for simple 3D shapes.

Identify the 2D shape that makes up the faces of a 3D shape, including identifying pyramids according to the shape of their base (’square - based’ and ‘triangle - based’).</td><td>2G–1 Use precise language to describe the properties of 2D and 3D shapes, and compare shapes by reasoning about similarities and differences in properties.</td></tr>
<tr><td>1G–2 Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations.</td><td>Compose own 2D shapes from smaller shapes
  </td><td>Eg 2D shapes: solve tangram puzzles which contain different sized triangles and may require the parallelogram to be turned over not just rotated
 
Eg. 3D shapes match an example compound shape using multi-link cubes
   </td><td>Arrange 2D and 3 D shapes to match an example compound shape</td></tr>
</table>

Year 3 Mathematics

Number and Place Value			
Year 2	**Summer Term 2021**		**Year 3**
Year 2 conceptual prerequisite 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.	Able to make a unit of 1 hundred out of 10 units of 10, for example using 10 bundles of 10 straws to make 100, or using ten 10-value place-value counters, thinking about repeated addition.  Know that numbers such as 180 and 300 are multiples of 10, because they are each equal to a whole number of tens.	Understand and use place value charts to explain 100 is 10 times the size of 10.  	**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.
2NPV–1 Recognise the place value of each digit in two-digit numbers and compose and decompose two-digit numbers using standard and non-standard partitioning.	Compose and decompose three-digit numbers using standard partitioning.  	Compose and decompose three-digit numbers using non-standard partitioning.  830 – 400 = 430	**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.

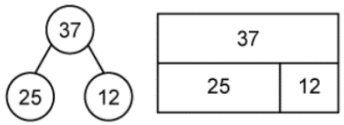
Year 2	Summer Term 2021	Year 3	Year 2
2NPV–2 Reason about the location of any two-digit number in the linear number system, including identifying the previous and next multiple of 10.	Identify or place three-digit numbers on marked number lines with a variety of scales.	Identify which pair of multiples of 100 or 10 a given three-digit number is between (with a number line for support initially).  Identify previous and next multiples of 100 or 10 **without the support of a number line.**	**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.
Year 2 conceptual prerequisite Count in multiples of 2, 5 and 10.	Divide 100 into 2 and 4 equal parts. 	Divide 100 into 5 and 10 equal parts. 	**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.

Number Facts and Addition and Subtraction			
Year 2	**Summer term 2021**		**Year 3**
2NF–1 Secure fluency in addition and subtraction facts within 10, through continued practice.	Secure fluency in addition facts that bridge 10. eg 2+9 = 11 5+7 = 12 6+9 = 15 etc.	Secure fluency in subtraction facts that bridge 10. eg 11-2 = 9 12-5 = 7 15-6 = 9 etc.	**3NF–1** Secure fluency in addition and subtraction facts that bridge 10, through continued practice.
Year 2 conceptual prerequisite 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.	Apply place value knowledge to known additive facts (scaling facts by 10) eg 8+6 = 14, 14-6 = 8 so 80+60 = 140, 140-60 = 80	Apply place value knowledge to known multiplicative facts (scaling facts by 10) eg 3x4 =12, 12÷3 =12 so 30x4 =120, 120÷4 = 30	**3NF–3** Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10).
2AS–1 Add and subtract across 10.	Compare correct calculations with the corresponding common incorrect calculations for complements to 100. 	Calculate complements to 100.  Use hundred squares and part-part-whole models. 	**3AS–1** Calculate complements to 100.

<table>
<tr><th>Year 2</th><th colspan="2">Summer term 2021</th><th>Year 3</th></tr>
<tr><td>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.</td><td>Add up to three-digit numbers using columnar methods. Initially where no regrouping is required and then including calculations involving regrouping.

Use Diennes to model the calculations, and to draw attention to the regrouping/exchange.</td><td>Subtract up to three-digit numbers using columnar methods. Initially where no exchanging is required and then including calculations involving exchanging.

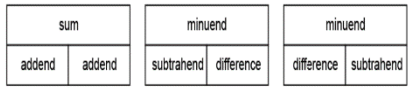
Use Diennes to model the calculations, and to draw attention to the regrouping/exchange.</td><td>3AS–2 Add and subtract up to three-digit numbers using columnar methods.</td></tr>
<tr><td>2AS–4 Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract any 2 two-digit numbers.</td><td>Understand the inverse relationship between addition and subtraction, and how both relate to the part–part–whole structure.

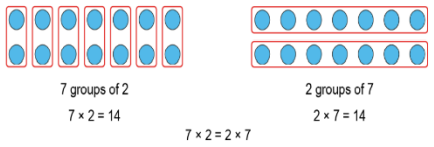
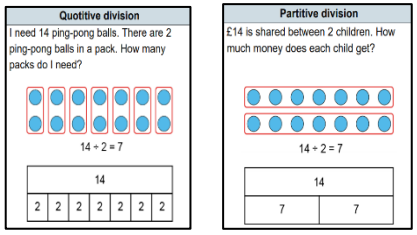
 

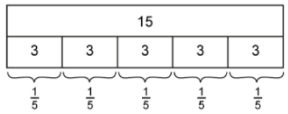
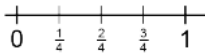
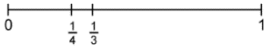
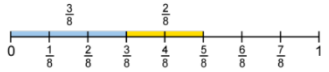
Practise writing the full set of 8 equations that are represented by a given partitioning diagram or bar model.

25+12 = 37 37-12 = 25
12+25 = 37 37-25 = 12

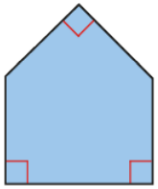
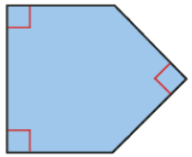
37 = 25+12 25 = 37-12
37 = 12+25 12 = 37-25</td><td>Understand and use the commutative property of addition and understand the related property for subtraction.

 
</td><td>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.</td></tr>
</table>

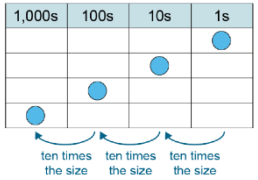
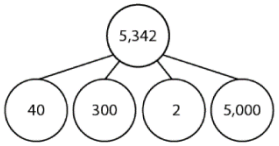
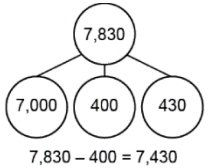
Number Facts and Multiplication and Division			
Year 2	**Summer term 2021**		**Year 3**
2MD–1 Recognise repeated addition contexts, representing them with multiplication equations and calculating the product, within the 2, 5 and 10 multiplication tables.	Recall multiplication facts, and corresponding division facts, in the 2, 5 and 10 multiplication tables, and recognise products in these multiplication tables as multiples of the corresponding number.	Recall multiplication facts, and corresponding division facts, in the 4 and 8 multiplication tables, and recognise products in these multiplication tables as multiples of the corresponding number.	**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.
Year 2 conceptual prerequisite 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.	Apply place value knowledge to known additive facts (scaling facts by 10) eg 8+6 = 14, 14-6 = 8 so 80+60 = 140, 140-60 = 80	Apply place value knowledge to known multiplicative facts (scaling facts by 10) eg 3x4 =12, 12÷3 =12 so 30x4 =120, 120÷4 = 30	**3NF–3** Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10).
2MD–2 Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotitive division).	Solve multiplication problems about groups of 5, 10, 2, 4 or 8. Use arrays to show how the commutative property relates to different grouping interpretations.  	Apply division facts corresponding to division by 5, 10, 2, 4 and 8 to solve both quotitive (grouping) and partitive (sharing) contextual division problems.  	**3MD–1** Apply known multiplication and division facts to solve contextual problems with different structures, including quotitive and partitive division.

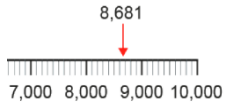
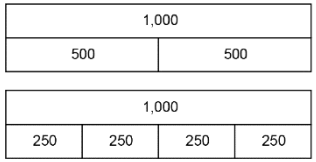
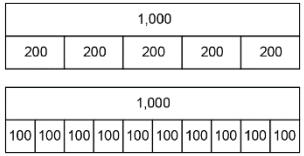
Fractions			
Year 2	**Summer term 2021**		**Year 3**
National Curriculum Y2 Write simple fraction eg $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4} = \frac{1}{2}$	Describe unit fractions of a shape/area, measure (eg a length of ribbon or beaker of water) and set using precise language. Eg Shape: The whole is divided into 3 equal parts. 1 of these parts is shaded. Set: a group of sheep where all are white except one, which is black	Interpret and write proper fractions to represent 1 (unit fractions) or several parts of a whole (non-unit fractions) that is divided into equal parts. Eg The whole is divided into 8 equal parts and 5 of those parts are shaded. $\frac{5}{8}$ of the shape is shaded. $\frac{5}{8}$ is 5 one-eighths.	**3F–1** Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts.
National Curriculum Y2 Recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity.	Use part whole models to represent dividing by unit fractions linked to known tables facts eg $\frac{1}{2}$ of 16 = 16 ÷2 Find $\frac{1}{2}, \frac{1}{5}, \frac{1}{10}, \frac{1}{4}, \frac{1}{8}$, of quantities linked to 2, 5, 10, 4 and 8 multiplication tables.	Use division facts to find a unit fraction of a quantity.  Eg to find $\frac{1}{5}$ of 15, we divide 15 into 5 equal parts. 15 divided by 5 is equal to 3, so $\frac{1}{5}$ of 15 = 3.	**3F–2** Find unit fractions of quantities using known division facts (multiplication tables fluency).
Year 2 conceptual prerequisite Reason about the location of whole numbers in the linear number system.	Know and understand a fraction as a number and therefore has a position on a number line.  	Reason about the location of any fraction within 1 in the linear number system.  	**3F–3** Reason about the location of any fraction within 1 in the linear number system.
Year 2 conceptual prerequisite 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.	Add fractions with the same denominator, within 1. Eg $\frac{3}{8} + \frac{2}{8} = \frac{5}{8}$  	Subtract fractions with the same denominator, within 1. Eg $\frac{5}{8} - \frac{2}{8} = \frac{3}{8}$  	**3F–4** Add and subtract fractions with the same denominator, within 1.

Measurement			
Year 2	**Summer Term 2021**		**Year 3**
National Curriculum Y2 Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels. Compare and order lengths, mass, volume/capacity and record the results using >, < and =	Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml).	Measure the perimeter of simple 2D shapes.	**National Curriculum Y3** • Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml). • Measure the perimeter of simple 2D shapes.
National Curriculum Y2 Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.	Add and subtract amounts of money to give change, using **either** £ or p (of the same unit) in practical contexts.	Add and subtract amounts of money to give change, using **both** £ or p (including mixed units) in practical contexts.	**National Curriculum Y3** • Add and subtract amounts of money to give change, using both £ and p in practical contexts.
National Curriculum Y2 Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times.	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, a.m./p.m., 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. Eg to calculate the time taken by particular events or tasks.	**National Curriculum Y3** • 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, a.m./p.m., 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.

Geometry			
Year 2	**Summer Term 2021**		**Year 3**
2G–1 Use precise language to describe the properties of 2D and 3D shapes, and compare shapes by reasoning about similarities and differences in properties.	Recognise right angles as a property of shape or a description of turn. 	Identify right angles in 2D shapes presented in different orientations. 	**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.
National Curriculum Y2 Draw lines and shapes using a straight edge.	Draw polygons by joining marked points, precisely, using a ruler. Mark vertices on a grid (square or isometric), as well as joining already-marked points.	Identify a pair of parallel or perpendicular lines, as well as horizontal and vertical lines. Explain why a pair of lines are parallel or perpendicular. Identify parallel and perpendicular sides.	**3G–2** Draw polygons by joining marked points, and identify parallel and perpendicular sides.

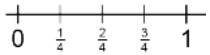
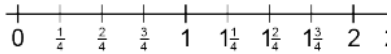
Year 4 Mathematics

Number and Place Value			
Year 3	**Summer Term 2021**		**Year 4**
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.	Able to make a unit of 1 thousand out of 10 units of 100, for example using 10 bundles of 100 straws to make 1,000, or using ten 100-value place-value Counters and thinking about repeated addition  Know that numbers such as 1,800 and 3,000 are multiples of 100, because they are each equal to a whole number of hundreds.	Understand and use place value charts to explain 1000 is 10 times the size of 100  	**4NPV–1** Know that 10 hundreds are equivalent to 1 thousand, and that 1,000 is 10 times the size of 100; apply this to identify and work out how many 100s there are in other four-digit multiples of 100.
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.	Compose and decompose four -digit numbers using standard partitioning  	Compose and decompose four -digit numbers using non-standard partitioning  7,830 – 400 = 7,430	**4NPV–2** Recognise the place value of each digit in *four*-digit numbers, and compose and decompose *four*-digit numbers using standard and non-standard partitioning.

Year 3	Summer Term 2021		Year 4
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.	Identify or place 4 digit numbers on marked number lines with a variety of scales	Use a number line to support rounding 4 digit numbers to nearest multiple of 1000 or 100 	**4NPV–3** Reason about the location of any *four*-digit number in the linear number system, including identifying the previous and next multiple of 1,000 and 100, and rounding to the nearest of each.
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.	Divide 1000 into 2 and 4 equal parts 	Divide 1000 into 5 and 10 equal parts 	**4NPV–4** Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts.

Number Facts and Addition and Subtraction			
Year 3	**Summer term 2021**		**Year 4**
3NF–1 Secure fluency in addition and subtraction facts that bridge 10, through continued practice.	Secure fluency in addition and subtraction facts that bridge through 100 and 1000 eg 590 +70, 598 + 7 620- 50, 809 – 10 eg 1900 +200, 298 +17 4300 -400, 599- 25	Use bar models and other representations to show, explain and use inverse when calculating with 4-digit numbers.	National Curriculum Y4 • add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate • estimate and use inverse operations to check answers to a calculation • solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.
3NF–3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10).	Apply place value knowledge to known additive facts (scaling facts by 100) eg 8 +6 = 14. 14-6 =8 so 800 +1600 = 1400, 1400-600=800	Apply place value knowledge to known multiplicative facts (scaling facts by 100) eg 3x4 =12, 12 ÷3 =12 so 300 x4 =1200, 1200 ÷4 = 300	**4NF–3** Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100)

Number Facts and Multiplication and Division			
Year 3	**Summer term 2021**		**Year 4**
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.	Recall multiplication facts, and corresponding division facts, in the 3, 6 and 9 multiplication tables, and recognise products in these multiplication tables as multiples of the corresponding number.	Recall multiplication facts, and corresponding division facts, in the 7, 11 and 12 multiplication tables, and recognise products in these multiplication tables as multiples of the corresponding number.	**4NF–1** Recall multiplication and division facts up to 12x 12 and recognise products in multiplication tables as multiples of the corresponding number.
Solve division problems, using multiples of 10,5,2,4 and 8 that don't involve remainders,	Solve division problems, using near multiples of 3, 6 and 9, and interpret remainders appropriately according to the context.	Solve division problems, using near multiples of 7, 11 and 12, and interpret remainders appropriately according to the context.	**4NF–2** Solve division problems, with two-digit dividends and one-digit divisors, that involve remainders, and interpret remainders appropriately according to the context.
3NF–3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10).	Apply place value knowledge to known additive facts (scaling facts by 100) eg 8 +6 = 14. 14-6 =8 so 800 +1600 = 1400, 1400- 600=800	Apply place value knowledge to known multiplicative facts (scaling facts by 100) eg 3x4 =12, 12 ÷3 =12 So 300 x4 =1200, 1200 ÷4 = 300	**4NF–3** Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100)
3MD–1 Apply known multiplication and division facts to solve contextual problems with different structures, including quotitive and partitive division.	Multiply whole numbers by 10 and 100 understand this as equivalent to making a number 10 or 100 times the size.	Divide whole numbers by 10 and 100 understand this as equivalent to making a number 10 or 100 times the size.(keeping to whole number quotients)	**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.
Understand and represent commutativity in multiplication eg using arrays, number lines and bar models	Understand, show and explain that multiplication equations are commutative. eg 2x3 = 3x2	Understand, show and explain that any division equation can be interpreted in two different ways. eg 14 ÷ 7= 2 (groups of 7) 14÷ 7= 2 seven times	**4MD–2** Manipulate multiplication and division equations and understand and apply the commutative property of multiplication.
Understand and use adjacent facts in 2x 5x and 10x tables I know 7x 5 is 5 more than 6x5	Understand and use adjacent facts in 3x 6x and 9x tables 3x6 = 2x6 +6 or 3x6 = 2x6 +1x6 2x6 = 3x6 -6 or 2x6 = 3x6 – 1x6	Understand and use adjacent facts in 7x 11x and 12x tables 7x6 = 6x6 +6 or 7x6 = 6x6 +1x6 6x6 = 7x6 -6 or 6x6 = 7x6 – 1x6	**4MD–3** Understand and apply the distributive property of multiplication.

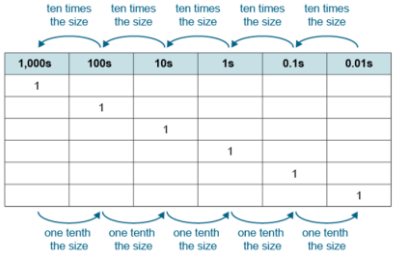
Fractions			
Year 3	**Summer term 2021**		**Year 4**
3F–1 Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts.	Use number lines and part whole models eg bars to represent counting in unit fractions beyond one starting at different numbers	Add and subtract fractions with the same denominator using bar models to represent calculations	Add and subtract fractions with the same denominator. Understand improper fractions can be used to show a solution
3F–2 Find unit fractions of quantities using known division facts (multiplication tables fluency).	Use part whole models to represent dividing by unit fractions linked to known tables facts Eg $\frac{1}{4}$ of 24 = 24 ÷4	Know $\frac{1}{10}$ = 0.1. Know finding a tenth requires dividing by ten	Know and understand the relationship between dividing by a unit fraction and a division calculation
3F–3 Reason about the location of any fraction within 1 in the linear number system.	Know and understand a fraction as a number and therefore has a position on a number line 	Reason about the location of mixed numbers between 1 and 2. 	**4F–1** Reason about the location of mixed numbers in the linear number system.
Count in fractional steps to one whole	Count in fractional steps beyond one $\frac{1}{2}$; $\frac{1}{4}$; $\frac{1}{3}$; $\frac{1}{5}$; $\frac{1}{10}$	Count in fractional steps beyond one	**4F–2** Convert mixed numbers to improper fractions and vice versa.
3F–4 Add and subtract fractions with the same denominator, within 1.	Add improper and mixed fractions with the same denominator, including bridging whole numbers. Eg $1\frac{1}{4} + 2\frac{3}{4}$; $\frac{7}{4} + \frac{6}{4} = \frac{13}{4} = 3\frac{1}{4}$	Subtract improper and mixed fractions with the same denominator, including bridging whole numbers. Eg $5\frac{3}{5} - 2\frac{1}{5}$ $\frac{15}{4} - \frac{6}{4} = \frac{9}{4} = 2\frac{1}{4}$	**4F–3** Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers.

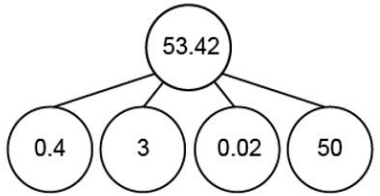
Measurement			
Year 3			**Year 4**
Convert between different units of measure [for example, metres to centimetre; weeks to days]	Convert between different units of measure [for example, kilometre to metre; cm to mm]	Convert between different units of measure [for example hour to minute, minute to second]	**National Curriculum Y4** • Convert between different units of measure [for example, kilometre to metre; hour to minute]
National Curriculum Y3 measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)	• measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres	• find the area of rectilinear shapes by counting squares	**National Curriculum Y4** • measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres • find the area of rectilinear shapes by counting squares
National Curriculum Y3 add and subtract amounts of money to give change, using both £ and p in practical contexts	• solve two step problems involving money (whole pounds and pounds and pence), including representing totals with notes and coins and calculating change	Solve two step problems involving length, mass and capacity.	**National Curriculum Y4** • estimate, compare and calculate different measures, including money in pounds and pence
National Curriculum Y3 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, a.m./p.m., morning, afternoon, noon and midnight	• read, write and convert time between analogue and digital 12- and 24-hour clocks	solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days	**National Curriculum Y4** • read, write and convert time between analogue and digital 12- and 24-hour clocks • solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.

Geometry			
Year 3			**Year 4**
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.	Know when an angle is less than a right angle and therefore acute	Know when an angle is more than a right angle and therefore obtuse	Know a right angle is equal to 90 degrees. Use the terms acute and obtuse to describe angles less than 180 degrees
3G–2 Draw polygons by joining marked points, and identify parallel and perpendicular sides.	Draw polygons, specified by coordinates in the first quadrant	Translate shapes within the first quadrant	**4G–1** Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant.
Identify regular and irregular polygons describing their properties with precise language	Identify regular polygons, including equilateral triangles and squares, as those in which the side-lengths are equal and the angles are equal. F	Find the perimeter of regular and irregular polygons	**4G–2** Identify regular polygons, including equilateral triangles and squares, as those in which the side-lengths are equal and the angles are equal. Find the perimeter of regular and irregular polygons.
Use folding to identify shapes with one or more lines of symmetry	Identify line symmetry in 2D shapes presented in different orientations	Reflect shapes in a line of symmetry and complete a symmetric figure or pattern with respect to a specified line of symmetry.	**4G–3** Identify line symmetry in 2D shapes presented in different orientations. Reflect shapes in a line of symmetry and complete a symmetric figure or pattern with respect to a specified line of symmetry.

Year 5 Mathematics

<table>
<tr><th colspan="4">Number and Place Value</th></tr>
<tr><th>Year 4</th><th colspan="2">Summer Term 2021</th><th>Year 5</th></tr>
<tr>
<td>4NPV–1 Know that 10 hundreds are equivalent to 1 thousand, and that 1,000 is 10 times the size of 100; apply this to identify and work out how many 100s there are in other four-digit multiples of 100.</td>
<td>Pupils should understand that a ‘1’ in the tenth’s column has a value of one tenth, and is one tenth the size of 1 and a ‘1’ in the hundredth’s column has a value of one hundredth, and is one hundredth the size of 1
 

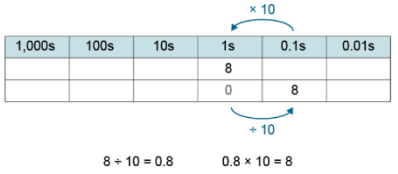
Know that numbers such as 18 hundredths is equal to 1 tenth and 8 hundredths, and is written as 0.18 and 18 tenths is equal to 1 one and 8 tenths, and is written as 1.8</td>
<td>Understand that the value of a given digit is made 10 times the size if it is moved 1 position to left and is made one tenth times the size if it is moved 1 position to the right.
 

This includes tenths and hundredths.</td>
<td>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.</td>
</tr>
<tr>
<td>4NPV–2 Recognise the place value of each digit in four-digit numbers, and compose and decompose four-digit numbers using standard and non-standard partitioning.</td>
<td>Be able to connect the spoken word of reading decimal numbers, the value in decimal notation, describing the number of tenths and hundredths and visual representations.
<table>
<tr><td>1,000</td><td>2,000</td><td>3,000</td><td>4,000</td><td>5,000</td><td>6,000</td><td>7,000</td><td>8,000</td><td>9,000</td></tr>
<tr><td>100</td><td>200</td><td>300</td><td>400</td><td>500</td><td>600</td><td>700</td><td>800</td><td>900</td></tr>
<tr><td>10</td><td>20</td><td>30</td><td>40</td><td>50</td><td>60</td><td>70</td><td>80</td><td>90</td></tr>
<tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr>
<tr><td>0.1</td><td>0.2</td><td>0.3</td><td>0.4</td><td>0.5</td><td>0.6</td><td>0.7</td><td>0.8</td><td>0.9</td></tr>
<tr><td>0.01</td><td>0.02</td><td>0.03</td><td>0.04</td><td>0.05</td><td>0.06</td><td>0.07</td><td>0.08</td><td>0.09</td></tr>
</table></td>
<td>Compose and decompose units of hundredths, tenths, ones, tens, hundreds and thousands numbers using non-standard partitioning.
 
</td>
<td>5NPV–2 Recognise the place value of each digit in numbers with up to 2 decimal places and compose and decompose numbers with up to 2 decimal places using standard and non-standard partitioning.</td>
</tr>
</table>

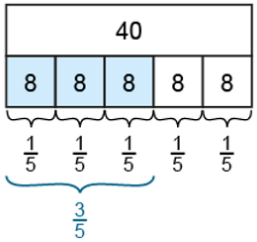
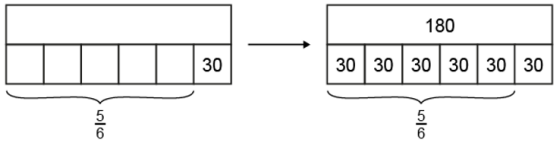
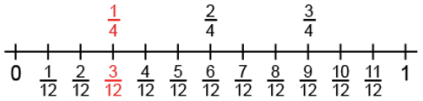
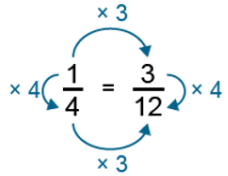
<table>
<tr><th>Year 4</th><th colspan="2">Summer Term 2021</th><th>Year 5</th></tr>
<tr>
<td>4NPV–3 Reason about the location of any four-digit number in the linear number system, including identifying the previous and next multiple of 1,000 and 100, and rounding to the nearest of each.</td>
<td>Be able to estimate the value or position of decimal fractions on unmarked or partially marked numbers lines.</td>
<td>Be able to round a given decimal fraction to the nearest whole number by identifying the nearest of the pair of whole numbers that the decimal fraction is between. Similarly, pupils should learn to round to the nearest multiple of 0.1.
previous whole number 8 < 8.61 < next whole number 9</td>
<td>5NPV–3 Reason about the location of any number with up to 2 decimals places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each.</td>
</tr>
<tr>
<td>4NPV–4 Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts.</td>
<td>Be able to count in multiples of 0.1, 0.2, 0.25 and 0.5 from 0, or from any multiple of these numbers, both forwards and backwards
<table><tr><td colspan="4">1</td></tr><tr><td>0.25</td><td>0.25</td><td>0.25</td><td>0.25</td></tr></table></td>
<td>Be able to solve addition and subtraction problems based on partitioning 1 into multiples of 0.1, 0.2 and 0.5 based on known number bonds to 10. Have automatic recall of the fact that 0.25 and 0.75 are bonds to 1.</td>
<td>5NPV–4 Divide 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in units of 1 with 2, 4, 5 and 10 equal parts.</td>
</tr>
<tr>
<td>Pupils should know and recall the following conversions:
1km = 1,000m
1m = 100cm
1cm = 10mm
1 litre = 1,000ml
1kg = 1,000g
£1 = 100p</td>
<td>To convert from and to fraction and decimal fraction quantities of larger units, within 1, for example 0.25km = 250m.
<table><tr><th>Distance in km expressed as a fraction</th><th>Distance in km expressed as a decimal fraction</th><th>Distance in metres</th></tr><tr><td>$\frac{1}{5}$km</td><td>0.2km</td><td>200m</td></tr><tr><td>$\frac{1}{4}$km</td><td>0.25km</td><td>250m</td></tr><tr><td>$\frac{1}{2}$km</td><td>0.5km</td><td>500m</td></tr><tr><td>$\frac{3}{4}$km</td><td>0.75m</td><td>750m</td></tr><tr><td>$\frac{1}{10}$km</td><td>0.1km</td><td>100m</td></tr><tr><td>all other multiples of $\frac{1}{10}$km, for example, $\frac{7}{10}$km</td><td>0.7km</td><td>700m</td></tr></table></td>
<td>Derive other common conversions over 1.
For example:
3700ml = 3.7l
4200ml = 4.2l

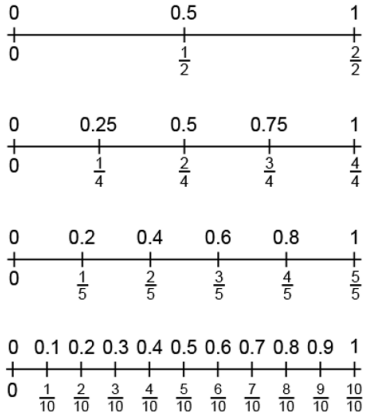
They should be able to use single unit conversion rates and their understanding of place value.</td>
<td>5NPV–5 Convert between units of measure, including using common decimals and fractions.</td>
</tr>
</table>

Number Facts and Addition and Subtraction			
Year 4	**Summer term 2021**		**Year 5**
National Curriculum Y4 • add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate • estimate and use inverse operations to check answers to a calculation • solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.	Reason about when a calculation can be solved mentally and when a formal written method is required.	Solve multi-step addition and subtraction problems using rounding to check answers.	**Year 5 National Curriculum:** Pupils should be taught to: • add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) • add and subtract numbers mentally with increasingly large numbers • use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy • solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.

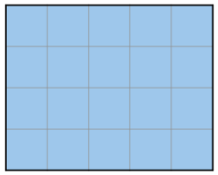
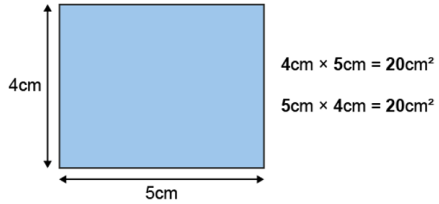
Number Facts and Multiplication and Division			
Year 4	**Summer term 2021**		**Year 5**
4NF–1 Recall multiplication and division facts up to 12x 12 , and recognise products in multiplication tables as multiples of the corresponding number.	Have automatic recall of multiplication and division facts within the multiplication tables. $2\times2=4$ $3\times2=6$ $3\times3=9$ $4\times2=8$ $4\times3=12$ $4\times4=16$ $5\times2=10$ $5\times3=15$ $5\times4=20$ $5\times5=25$ $6\times2=12$ $6\times3=18$ $6\times4=24$ $6\times5=30$ $6\times6=36$ $7\times2=14$ $7\times3=21$ $7\times4=28$ $7\times5=35$ $7\times6=42$ $7\times7=49$ $8\times2=16$ $8\times3=24$ $8\times4=32$ $8\times5=40$ $8\times6=48$ $8\times7=56$ $8\times8=64$ $9\times2=18$ $9\times3=27$ $9\times4=36$ $9\times5=45$ $9\times6=54$ $9\times7=63$ $9\times8=72$ $9\times9=81$	Be able to identify patterns and relationships between different times table facts such as knowing the relationship between the 3-, 6- and 9-times table. Use these relationships to solve calculations.	**5NF–1** Secure fluency in multiplication table facts, and corresponding division facts, through continued practice.
4NF–2 Solve division problems, with two-digit dividends and one-digit divisors, that involve remainders, and interpret remainders appropriately according to the context.	Able to fluently derive related division facts for all known times tables up to 144 ÷ 12 = 12	Be able to fluently derive related division facts, including division facts with remainders	Be able to interpret remainders within the context of a given problem.
4NF–3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100)	Apply place value knowledge to known additive facts (scaling facts by 1 tenth or 1 hundredth) eg 6 + 3 = 9 So 0.6 + 0.3 = 0.9 and 0.06 + 0.03 = 0.09	Apply place value knowledge to known multiplicative facts (scaling facts by 1 tenth or 1 hundredth) eg 3 x 4 = 12 0.3 x 4 = 1.2 0.03 x 4 = 0.12	**5NF–2** Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth).
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.	Multiply numbers by 10 and 100. Understand this as equivalent to making a number 10 or 100 times the size	Divide numbers by 10 and 100 Understand this as equivalent to making a number 1 tenth or 1 hundredth times the size.  	**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.

Year 4	Summer term 2021		Year 5
4MD–2 Manipulate multiplication and division equations and understand and apply the commutative property of multiplication.	Express multiples of 10 or 100 as products of 3 factors, for example: 7 x 3 = 21 so 7 x 3 x 10 = 210 Pupils should understand that these factors can be written in any order (commutative)	Recognise multiples and factors linked to experience of dividing powers of 10 into 2, 4 or 5 equal parts, by attending to the appropriate digit(s), for example: 175 is a multiple of 25 because I know that 100 and 75 is a multiple of 25. 25 is a factor of 175	**5MD–2** Find factors and multiples of positive whole numbers, including common factors and common multiples, and express a given number as a product of 2 or 3 factors.
4MD–3 Understand and apply the distributive property of multiplication.	Use short multiplication to solve contextual multiplication problems.	Understand that although short multiplication can be used to multiply any number by a one-digit number, it is not always the most appropriate choice. For example, 201 x 4 can be calculated mentally by applying the distributive property of multiplication	**5MD–3** Multiply any whole number with up to 4 digits by any one-digit number using a formal written method.
Be able to use short division to solve contextual division problems	Carry out short division calculations that involve a remainder and, for contextual problems, interpret the remainder appropriately.	Understand that although short division can be used to divide any number by a one-digit number, it is not always the most appropriate choice. For example, 804 ÷ 4 =? 800 ÷ 4 = 200 4 ÷ 4 = 1 804 ÷ 4 = 201	**5MD–4** Divide a number with up to 4 digits by a one-digit number using a formal written method and interpret remainders appropriately for the context.

Fractions			
Year 4	**Summer term 2021**		**Year 5**
Reason about finding a non-unit fraction of a quantity, using division (to find the unit fraction) then multiplication (to find multiples of the unit fraction), and link this to understanding of parts and wholes. 	Calculate unit and non-unit fractions of quantities for calculations that go beyond known multiplication table facts. For example, finding $\frac{3}{7}$ of 210.	Be able to construct bar models to solve more complex problems related to fractions of quantities. 	**5F–1** Find non-unit fractions of quantities.
4F–1 Reason about the location of mixed numbers in the linear number system.	Know and understand the position of a mixed number on a structured number line.	Reason about the position of a mixed number on an unstructured number line.	Reason about the location of mixed numbers beyond 2.
4F–2 Convert mixed numbers to improper fractions and vice versa.	Understand that 2 different fractions that are the same position on a number line, have the same numerical value and are called equivalent fractions. 	Find equivalent fractions of unit and non-unit fractions by using multiplicative relationships. 	**5F–2** Find equivalent fractions and understand that they have the same value and the same position in the linear number system.

Year 4	Summer term 2021		Year 5
4F–3 Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers.	Recall common decimal fractions equivalents.  	Solve problems using a mixture of decimal fractions and proper fractions deciding about whether to carry out the calculation using decimal fractions or proper fractions.	**5F–3** Recall decimal fraction equivalents for $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$ and $\frac{1}{10}$, and for multiples of these proper fractions.

Measurement			
Year 4	**Summer term 2021**		**Year 5**
National Curriculum Y4 • Convert between different units of measure [for example, kilometre to metre; hour to minute]	Convert between different units of measure including kilometre to metre, centimetre to metre and centimetre to millimetre.	Convert between different units of measure including gram and kilogram and litre and millilitre.	National Curriculum Y5 convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)
National Curriculum Y4 • measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres • find the area of rectilinear shapes by counting squares	Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.	Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes.	National Curriculum Y5 • measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres • calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes
National Curriculum Y4 • estimate, compare and calculate different measures, including money in pounds and pence	Solve multi-step problems using decimal notation, involving money (whole pounds and pounds and pence), including representing totals with notes and coins and calculating change.	Solve multi-step problems using decimal notation, length, mass and capacity.	National Curriculum Y5 • use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.
National Curriculum Y4 • read, write and convert time between analogue and digital 12- and 24-hour clocks • solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.	Solve problems involving converting time between analogue and digital 12- and 24-hour clocks	Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.	National Curriculum Y5 • solve problems involving converting between units of time

Geometry			
Year 4	**Summer term 2021**		**Year 5**
Be able to use the more formal definitions of acute, obtuse and reflex	Estimate and approximate common angles, and angles that are close to them, including 90°, 180°, other multiples of 10°, and 45°.	Make accurate measurements, using a protractor, for angles up to 180°	**5G–1** Compare angles, estimate and measure angles in degrees (°) and draw angles of a given size.
Know that the area of a rectangle can be calculated by multiplying the length by the width and be able to explain why by drawing rectangles on squared centimetre paper. 	Understand that to find the area of a rectangle, the factors can be written in any order. 	Know that the area of larger shapes and spaces, such as the floor or ceiling of the classroom, or the playground, is expressed in square metres (m2).	**5G–2** Compare areas and calculate the area of rectangles (including squares) using standard units.
4G–1 Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant.	Draw polygons and label using appropriate vocabulary such as parallel and perpendicular lines.	Draw polygons, specified by coordinates in the first quadrant	Translate polygons within the first quadrant.
4G–2 Identify regular polygons, including equilateral triangles and squares, as those in which the side-lengths are equal and the angles are equal. Find the perimeter of regular and irregular polygons.	Identify regular polygons as those with sides and angles that are equal. Identify shapes that are irregular shapes and describe them using mathematical vocabulary.	Find the perimeter of regular polygons and composite rectilinear shapes.	**Year 5 National Curriculum:** Measure and calculate the perimeter of composite rectilinear shapes.
4G–3 Identify line symmetry in 2D shapes presented in different orientations. Reflect shapes in a line of symmetry and complete a symmetric figure or pattern with respect to a specified line of symmetry.	Identify lines of symmetry in a range of 2D shapes presented in different orientations.	Reflect shapes in a line of symmetry where the line may be presented in different orientations including horizontally and diagonally.	Complete a symmetric figure in a line of symmetry where the line may be presented in different orientations including horizontally and diagonally.

Year 6 Mathematics

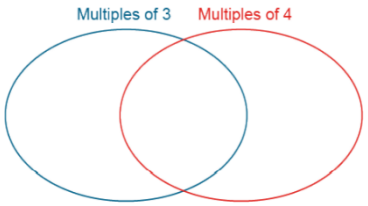
Number Facts			
Year 5	**Summer Term 2021**		**Year 6**
Secure fluency and automaticity with number bonds to (10 and) 100	Use number bonds to 10 and 100 to derive number bonds to 1 , 0.1 , 1000 and larger powers of 10	Use complements to 1 to derive complements to 0.1 and vice versa	Be able to recall additive complements to 10 and 100, deriving facts to other powers of 10 efficiently and automatically
5NF–1 Secure fluency in multiplication table facts, and corresponding division facts, through continued practice.	Use known multiplication and associated division facts and the distributive law to mentally calculate with x and ÷ for one-digit and two-digit numbers eg 37 x 8 = (10 x 3 x 8) + (7 x 8) eg 424 ÷ 8 = (400÷ 8) + (24 ÷ 8) = (400 ÷ 2 ÷ 2÷ 2) + 3	Use known multiplication and associated division facts and the distributive law to mentally calculate with x and ÷ for one-, two-digit and three-digit numbers eg 237 x 8 = (100 x 2 x 8) + (10 x 3 x 8) + (7 x 8) eg 432 ÷ 16 = (400÷ 16) + (32 ÷ 16) = (400 ÷ 4 ÷ 4) + 2	Be able to recall and derive multiplication and division facts efficiently up to 12 x 12 efficiently and automatically
5NF–2 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth).	Use known or derived facts to scale solutions by one tenth, estimating first eg 13 x 0.9 ≈ 13 13 x 9 = (10 x 9) + (3 x 7) = 117 so 13 x 0.9 = 11.7	Use known or derived facts to scale solutions by one hundredth, estimating first eg 13 x 0.09 ≈ 1.3 13 x 9 = (10 x 9) + (3 x 7) = 117 so 13 x 0.9 = 1.17	Be able to use known number facts and place value knowledge to adjust calculations and solutions efficiently. eg 36+ 64 = 100 => 3.6 + 6.4 = 1

Number and Place Value			
Year 5	**Summer Term 2021**		**Year 6**
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. 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.	Be able to use a place value or Gattegno chart showing 100 000s, 10 000s, 1000s,100s,10s, 1s, 0.1s and 0.01s as headings to multiply and divide by 10 and 100. For example: Know that 1 is 10 times the size of one-tenth and 100 times the size of one-hundredth (scaling) and: Know that 50,000 is 100 times 500	Be able to read and write numbers from one-hundredth to 1 million, using patterning for support. For example: 1 000 one thousand 100 one hundred 1 one 0.1 one tenth 0.01 one hundredth Know that each power of 10 is equal to 1 group of 10 of the next smallest power of 10. For example 1 million is equal to 10 hundred thousands	6NPV–1 Understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000).
5NPV–2 Recognise the place value of each digit in numbers with up to 2 decimal places and compose and decompose numbers with up to 2 decimal places using standard and nonstandard partitioning.	Be able to identify the place value of each digit in a number using a place value chart and PV counters to demonstrate understanding. For example: In 68,000.5 • the 6 represents 6 ten thousands (the value of the 6 is 60 000) • the 8 represents 8 thousands (the value of the 8 is 8 000) • the 5 represents 5 tenths (the value of the 5 is 0.5)	Combine units from millions to hundredths to compose numbers, varying the order of the components. For example: 5 034 000.2 = 5 000 000 + 30 000 + 4 000 + 0.2 = 4 000 + 5 000 000 + 0.2 + 30 000 Solve missing number problems to compose numbers	6NPV–2 Recognise the place value of each digit in numbers up to 10 million, including decimal fractions, and compose and decompose numbers up to 10 million using standard and nonstandard partitioning.
5NPV–3 Reason about the location of any number with up to 2 decimals places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each.	Identify and place numbers up to 7-digits on a marked number line with a variety of scales. For example, place 12 500 on a 12 000 to 13 000 number line and on a 10 000 to 20 000 number line	Estimate the value of any given point on a number line or the position of any given number on an unmarked number line. For example: estimate the position of 65 000 on an unmarked 50 000 to 100 000 number line	6NPV–3 Reason about the location of any number up to 10 million, including decimal fractions, in the linear number system, and round numbers, as appropriate, including in contexts.
5NPV–4 Divide 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in units of 1 with 2, 4, 5 and 10 equal parts.	Skip count in intervals of powers of ten up to one hundred thousand, forwards and backwards, starting from any number	Be able to divide powers of 10 up to one hundred thousand into 2,3,4,5 and 10 equal parts. Compare results for different powers of 10. Show this in a bar model. For example: 1000 ÷ 4 = 250 and 10 000 ÷ 4 = 2 500	6NPV–4 Divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts, and read scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts.

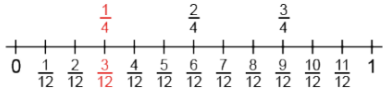
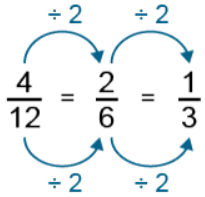
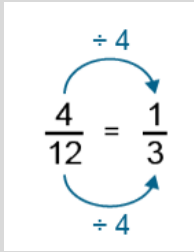
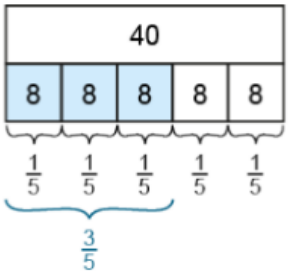
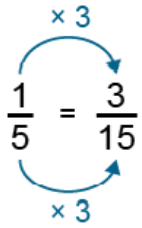
<table>
<tr><th colspan="4">Addition and Subtraction, Multiplication and Division</th></tr>
<tr><th>Year 5</th><th colspan="2">Summer Term 2021</th><th>Year 6</th></tr>
<tr><td>Understand that additive relationships and multiplicative relationships between two numbers are different (17 + 3 ≠ 17 x 3)</td><td>Given any two numbers, know that the relationships between them can be expressed additively or multiplicatively
For example:
Holly cycles 20km and Lola cycles 60km.
Lola has cycled 40km more than Holly (additive relationship)
Lola has cycled 3 times the distance that Holly has cycled.
(multiplicative relationship)</td><td>Given a sequence of numbers, be able to decide if the terms are related additively or multiplicatively
For example:
3,7,11,14…. has the rule ‘add 4’ (additive relationship)
3,6,12,24…has the rule ‘multiply by 2’ (multiplicative relationship)</td><td>6AS/MD–1 Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number)</td></tr>
<tr><td>Understand and use the commutative (3 + 8 = 8 + 3) and associative (3 + 8 + 4 = 4 + 3 + 8) properties of addition and the commutative (3 x 7 = 7 x 3), associative (3 x 7 x 6 = 6 x 3 x 7) and distributive (36 x 4 = (30 x 4) + (6 x 4)) properties of multiplication</td><td>Generate equivalent and related equations from a given fact, using inverses, place value knowledge and laws of arithmetic (commutative, associative, distributive). For example:
Use the equation 2448 ÷ 34 = 72 to complete 72 x ____ = 24 480</td><td>Understand and use the compensation (or balanced adjustment) property of addition and multiplication
For example:
25 + 75 = 23 + 77
(an adjustment of +/-2)
0.3 x 320 = 3 x 32
(an adjustment of x/ 10)</td><td>6AS/MD–2 Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding.</td></tr>
<tr><td>Use the ‘for every’ relationship between two numbers to complete simple ratio calculations, for example: Given the ingredients for a recipe for 1 person, calculate the amount of each ingredient required for 6 people . For every 1g of flour for 1 person, we need 6g of flour for 6 people.</td><td>Identify multiplicative relationships between given numbers in order to complete tables showing a 1-to-many (multiplier) relationship. For example:
<table><tr><td>cups of rice</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr><tr><td>cups of water</td><td>2</td><td>4</td><td>6</td><td>8</td><td>10</td><td>12</td></tr></table></td><td>Identify multiplicative relationships between given numbers in order to complete tables showing a many-to -1 (division) relationship. For example:
<table><tr><td>no of pupils</td><td>10</td><td>20</td><td>30</td><td>40</td><td>50</td><td>60</td></tr><tr><td>no of adults</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr></table></td><td>6AS/MD–3 Solve problems involving ratio relationships.</td></tr>
<tr><td>5MD–4 Divide a number with up to 4 digits by a one-digit number using a formal written method and interpret remainders appropriately for the context.</td><td>Understand and use known multiplication and associated division facts to divide two- and three- digit numbers by one- and two-digit numbers using formal repeated subtraction(chunking) choosing multiples of any size to subtract</td><td>Understand and use known multiplication and associated division facts to divide two- and three- digit numbers by one- and two-digit numbers using formal repeated subtraction (chunking) choosing the most efficient multiple size to subtract</td><td>Divide numbers up to 4-digits by a two-digit number using appropriate formal written methods for division, interpreting remainders as fractions, decimals, or whole number remainders.</td></tr>
</table>

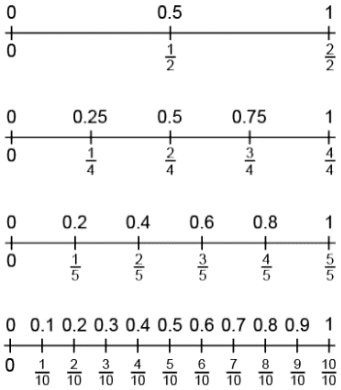
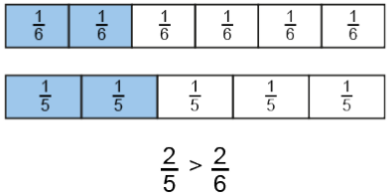
<table>
<tr><th>Year 5</th><th colspan="2">Summer Term 2021</th><th>Year 6</th></tr>
<tr><td>Solve problems with 1 unknown such as: 43 x 17 = 34 x ___
and: 546 - 97 = _____ + 98</td><td>Make connections between multiplication table facts to solve equations with 2 unknowns where there is only one solution such as:

5 x ____ = 10 x _____</td><td>Solve problems with 2 unknowns where there is more than 1 solution, providing examples by systematically choosing a value for one unknown and then calculating the other unknown. For example : Danny has some 50p coins and some 20p coins. He has £1.70 altogether. How many of each type of coin might he have ?

<table><tr><td>number of coins</td><td>quantity in 50p coins</td><td>quantity in 20p coins</td></tr><tr><td>7</td><td>1 x 50p</td><td>6 x 20p =£1.20</td></tr><tr><td></td><td></td><td></td></tr></table></td><td>AS/MD–4 Solve problems with 2 unknowns.</td></tr>
<tr><td>5MD–2 Find factors and multiples of positive whole numbers, including common factors and common multiples, and express a given number as a product of 2 or 3 factors.</td><td>Be able to identify common multiples of small numbers such as 3 and 4 and record these in a Venn diagram
 

Know that prime numbers have exactly two factors (one and themselves)</td><td>Be able to use know and associated division facts to identify factors. For example:
Show that 3 is a factor of 231 and reason about 2 more factors as a result.
231 ÷ 3 = 77
No remainders hence a factor.
Other factors: 77
(since 3 x 77 = 231)
and 11 (since 21 x 11 = 231 by a multiplicative adjustment of 7)</td><td>Identify common factors, common multiples, and prime numbers</td></tr>
<tr><td>5MD–3 Multiply any whole number with up to 4 digits by any one-digit number using a formal written method</td><td>Understand and use the area model (open array) for multiplication to generate the products of 2-digit by 3-digit numbers. Link this to the expanded written method and the distributive law. For example
361 x 17 = 300 x 10 + 300 x 7 + 60 x 10 + 60 x 7 + 1 x 10 + 1 x 7</td><td>Understand and use the distributive law for multiplication to generate products. Link this to the contracted written method</td><td>Multiply two multi-digit numbers together using place value knowledge and adjustments, estimations, and appropriate written methods. For example
172 x 0.035 = 172 x 35 ÷ 1000</td></tr>
</table>

Fractions			
Year 5	**Summer Term 2021**		**Year 6**
5F–2 Find equivalent fractions and understand that they have the same value and the same position in the linear number system.	Know that 2 different fractions can share the same position on a number line.  	Use knowledge of equivalence and division to simplify fractions, sometimes selecting the highest common factor.  	6F–1 Recognise when fractions can be simplified and use common factors to simplify fractions. 
5F–1 Find non-unit fractions of quantities.	Connect finding fractions of quantities with division into equal parts. For example: To find 3/5 of 40 we divide 15 into 5 equal parts to find 1/5 and then multiply by to find 3/5  	Use knowledge of common multiples to generate equivalent fractions such as  15 is a multiple of 5 and 15 Use this to compare $\frac{1}{5}$ and $\frac{4}{15}$	6F–2 Express fractions in a common denomination and use this to compare fractions that are similar in value. For example $\frac{1}{3}$ and $\frac{3}{8}$

Year 5	Summer Term 2021		Year 6
5F–3 Recall decimal fraction equivalents for $\frac{1}{2}, \frac{1}{4}, \frac{1}{5}, \text{and } \frac{1}{10}$ and for multiples of these proper fractions.	Be able to count in fractional and decimal steps using a number line and equate the position of decimal-proper fraction equivalents 	Know that if the numerators of two fractions are the same, then the larger the denominator, the smaller the fraction. For example, compare $\frac{2}{5}$ and $\frac{2}{6}$. Reason that 2 pieces out of 5 is larger than 2 pieces out of 6  $\frac{2}{5} > \frac{2}{6}$	6F–3 Compare fractions with different denominators, including fractions greater than 1, using reasoning, and choose between reasoning and common denomination as a comparison strategy
Write percentages as a fraction with a denominator of 100 (75% = $\frac{75}{100}$)	Use division by 100 to generate decimal equivalences of percentages 75 ÷ 100 = 0.75 75% = 0.75	Solve problems that require knowing percentage and decimal equivalents.	Find percentages and fractions of quantities. Use the method of finding 10% and 1% to generate other percentage facts.

<table>
<tr><th colspan="4">Measure</th></tr>
<tr><th>Year 5</th><th colspan="2">Summer Term 2021</th><th>Year 6</th></tr>
<tr><td>5NPV–5 Convert between units of measure, including using common decimals and fractions.</td><td>Know the following unit conversions:
1km = 1000m
1m = 100cm
1cm = 10mm
1 litre=1000ml
1kg = 1000g
£1 = 100p</td><td>Use ratio tables for support to derive other conversions over 1.
For example:<table><tr><td>1m</td><td>100cm</td></tr><tr><td>3.7m</td><td>370cm</td></tr></table></td><td>Be able to derive conversions less that 1, using ratio tables as required
For example<table><tr><td>1m</td><td>100cm</td></tr><tr><td>0.23m</td><td>23cm</td></tr></table></td></tr>
<tr><td>Calculate the perimeter of rectangles using standard units of length
Calculate the area of rectangles using standard units (cm^2 and m^2)
Estimate the volume of cuboids using cm^3 blocks</td><td>Calculate the perimeter and area of composite shapes, finding different ways to sub-divide shapes to obtain a solution</td><td>Calculate the volume of cuboids and composite solids by counting cubes.</td><td>Use formulae for the area and volume of shapes</td></tr>
<tr><td>Use temperature graphs, charts, and representations of thermometers to solve comparison, sum and difference problems involving positive and negative integers</td><td>Be able to construct a number line to include numbers below zero.</td><td>Know that -10 is less than -1 because it is further from zero. (consider this in the context of temperature on a vertical or horizontal number line)</td><td>Add and subtract positive and negative integers for measures such as temperature and depth using a number line</td></tr>
<tr><td>Know key decimal conversion facts such as 1kg =1000g and 0.5kg = 500g</td><td>Convert between different decimal units of measure using multiplication and division</td><td>Convert between different units of time using multiplication and division</td><td>Solve problems involving measure to three decimal places, including mass, length, money, and time.
Know key decimal conversion facts such as 1g = 0.001kg</td></tr>
</table>

Geometry			
Year 5	**Summer Term 2021**		**Year 6**
5G–1 Compare angles, estimate, and measure angles in degrees (°) and draw angles of a given size.	Know that a reflex angle is larger than the angle on a straight line, less than the angle for a full turn. Identify and estimate reflex angles in shapes	Reason about angles in regular shapes using symmetry and solve missing angle problems in simple regular polygons	Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. Use a protractor effectively to measure and draw angles.
5G–2 Compare areas and calculate the area of rectangles (including squares) using standard units.	Compare areas of a range of shapes by counting squares and construct different shapes of equal area using squared paper	Draw rectangles with given areas Solve missing length problems with rectangles and compound shapes, given the area.	Know that the area of a rectangle can be calculated by multiplying the length by the width and that the area of a triangle is half the area of its enclosing rectangle (draw a diagonal on a rectangle and you have two congruent triangles)
Compare the perimeters of rectangles and squares using standard units of length	Draw rectangles with given perimeters Solve missing length problems with rectangles and compound shapes	Draw shapes and nets (2-D representations of 3-D shapes) accurately, using measuring tools and conventional labels for lines and angles	6G–1 Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems.
Identify, describe and represent the position of a shape following a reflection or translation.	Recognise and use reflection and translation in a variety of diagrams in the first quadrant of a coordinate grid	Describe positions on the full coordinate grid (in all four quadrants)	Draw and translate simple shapes on the coordinate plane, and reflect them in the axes

Section 2 – Summative Assessment Tool

Reading

End of Year descriptors to support summative assessment (2021)

Year 1	Year 2	Year 3
Pupils recognise familiar words in simple texts and use their growing phonic knowledge to support them in decoding unfamiliar words. They express their response to texts read aloud, identifying likes and dislikes. They ask simple questions to further their understanding. Pupils are able to retell familiar stories and make predictions based on what has been read so far.	Pupils demonstrate a secure use of phonics to blend unfamiliar words. Their increasing knowledge of sight words supports fluency. This improved fluency enables them to comprehend more of what they are reading. They independently deploy self-correction strategies when the text does not make sense to them. They reflect on their reading, expressing and justifying personal responses. Pupils can locate key information and make simple inferences.	Pupils' increasing understanding of word structure and vocabulary allows them to read with fluency. They can locate and retrieve key information. They make predictions and simple inferences based on details stated and implied. When responding to a wider range of texts, they have greater confidence to express opinions and personal preferences. Pupils are able to identify simple themes within familiar stories.
Year 4	**Year 5**	**Year 6**
Pupils are developing increasing stamina as they read for longer periods and cope with more demanding texts. When reading aloud, pupils use intonation and control the tone and volume of their reading. They make sound inferences, justifying these with evidence from the text. Pupils retrieve key information or events to summarise. They can discuss words and phrases that capture the reader's interest and imagination.	Pupils read and understand a wide range of texts independently. They ask questions to enhance this understanding and are able to make comparisons within and across different texts. Through discussion, they show that they are able to build sound inferences relating to a characters' feelings, thoughts and motives. They justify these inferences with evidence from the text. They are beginning to distinguish between fact and opinion. Pupils can summarise the main ideas drawn from more than one paragraph.	Pupils read and understand a wide range of texts independently and with ease. They understand how organisational structures and language are used to contribute to meaning and how this affects the reader. Through discussion, and in writing about their reading, they show that they are able to build inferences around characters' feelings, thoughts and motives, supporting these with evidence from the text. Pupils can provide a succinct summary drawn from more than one paragraph.

Writing

End of Year descriptors to support summative assessment (2021)

Year 1	Year 2	Year 3
Pupils can write simple sentences without support. They are increasingly confident, writing independently a familiar range of forms, but still need support with extending and developing writing. They rehearse their ideas orally prior to writing, drawing on models from reading to help structure and develop their own. Pupils are aware of the need to add description to their writing and use a few common conjunctions to link ideas. They use their phonics knowledge to support spelling.	Pupils are confident to write independently. Writing is developed through a series of linked ideas. They rehearse their ideas orally prior to writing and are aware of the need to add description, using simple adjectives to expand noun phrases. They use a range of common conjunctions to develop, link or expand ideas. They can read back their own writing, checking for errors in punctuation and spelling. They are beginning to check for sense and meaning and are able to edit with support where necessary.	Pupils are aware of the purpose and audience for their writing. They explore and experiment with a wider range of sentence structures, thinking carefully about how to extend and join parts of their writing using appropriate adverbs and conjunctions. Writing is shaped by simple planning structures. Description is developed through the use of precise vocabulary. They read back their writing and, with support, edit to link and develop ideas coherently.
Year 4	**Year 5**	**Year 6**
Pupils can identify the purpose, audience and form of their writing and organise their text using paragraphs for clarity. Narratives have clear structures and key events are expanded. Drawing on a growing store of vocabulary, pupils incorporate more detailed description into their writing. Ideas are connected through the use of nouns, pronouns and adverbials. Pupils use inverted commas to indicate direct speech where appropriate. They are able to proof-read and edit their writing with increasing independence.	Pupils demonstrate a growing consideration of language and style for a given purpose, audience and form. They structure their writing logically, developing ideas within and across paragraphs. In narratives, they can develop characters, settings and atmosphere through appropriate language choices. Pupils can use and discuss a range of sentence structures. They use tenses consistently. Spelling and punctuation errors are edited largely independently with reference to taught rules.	Writing is securely organised within coherent paragraphs. Pupils employ a variety of vocabulary and structures suitable to the purpose, audience and form of their writing. Sentence length and structure are varied for effect. Pupils show awareness of standard forms and can write in different tenses as required. They draw on a range of effective strategies for spelling, using a wider range of rules and patterns. When evaluating and editing their writing, they can discuss their choices, add detail and delete for clarification.

Mathematics

In KS1, learners should read, spell, and pronounce mathematical vocabulary at a level consistent with their increasing word reading and spelling knowledge. As they progress through the key stage, learners develop an understanding of the ordinality and cardinality of the linear number system.

Minimum sufficiency within Year 1	**Typically by the end of Year 1**
Learners should be fluent with counting forwards whole numbers within 100 and backwards with whole numbers up to 20. They should add and subtract within 20, recalling most number bonds within 10, using concrete objects and pictorial representations. Learners are able to: • count in 2s and 10s. • understand and represent one more and one less than a given number. • recognise simple fractions (halves) • describe and compare different quantities in length, • tell the time to the hour	Learners should be fluent with counting whole numbers within 100 forwards and backwards. They should add and subtract within 20, recalling number bonds within 10, using concrete objects and pictorial representations. Learners are able to: • count in 2s, 5s and 10s. • understand and represent one more and one less than a given number. • recognise simple fractions (halves and quarters) • describe and compare different quantities such as length, mass, and capacity. • tell the time to the hour and half past

Minimum sufficiency within Year 2	Typically by the end of Year 2
Learners should be mentally fluent with whole numbers, counting and place value up to 100. They should know most of the number bonds to 20 using and understanding place value. They should be able to use practical resources such as concrete objects and measuring tools, learners are working with numerals, words and the four operations of addition, subtraction, multiplication (tables facts), and division using concrete objects. Learners are able to: • compose and decompose two-digit numbers and represent calculations with part-part-whole models. • recall multiplication tables for 2x, 5x, and 10x using repeated addition and subtraction as a strategy. • recognise, describe, draw, compare, and sort different 2D- and 3D-shapes and use related vocabulary • describe and compare different quantities such as length, mass, money • tell the time including half past, quarter to and quarter past.	Learners should be mentally fluent with whole numbers, counting and place value up to 100. They should know the number bonds to 20 and be precise in using and understanding place value. Using practical resources such as concrete objects and measuring tools, learners are working with numerals, words and the four operations of addition, subtraction, multiplication, and division. Learners are able to: • compose and decompose two-digit numbers and represent calculations with part-part-whole models. • recall multiplication tables for 2x,5x, and 10x and derive associated division facts, using repeated addition and subtraction as a strategy. • recognise, describe, draw, compare, and sort different 2D- and 3D-shapes and use related vocabulary • describe and compare different quantities such as length, mass, capacity, time, and money • tell the time to an accuracy of 5 minutes, including quarter to and quarter past.

In KS2, learners should read, spell, and pronounce mathematical vocabulary correctly and confidently at an age-appropriate level. As they progress through the key stage, learners develop an understanding of the ordinality and cardinality of the linear number system.

Minimum sufficiency within Year 3	**Typically by the end of Year 3**
Learners will be developing formal and informal written and mental methods using the four operations of addition, subtraction, multiplication, and division. They understand and use the inverse relationship between addition and subtraction. They can add and subtract 1,10 and 100 to and from 3 -digit numbers Learners are able to: • solve a range of number and place value problems. • calculate complements to 1000 with multiples of 100. • compare different shapes with reference to angles. • use measuring instruments, making reference to standard units of measure • tell the time: including minutes past and to the hour • recall multiplication tables for 2x, 3x, 4x, 5x and 10x and derive division facts for 2x 5x and 10x • read and write simple unit fractions	Learners will be developing formal and informal written and mental methods using the four operations of addition, subtraction, multiplication, and division, including number facts and the concept of place value in numbers to 1000. They understand and use the inverse relationship between addition and subtraction. They can accurately perform calculations with whole numbers. Learners are able to: • solve a range of number and place value problems. • calculate complements to 1000. • compare different shapes with reference to angles. • use measuring instruments, making reference to standard units of measure • tell the time accurately • recall multiplication tables for 2x, 3x, 4x, 5x, 8x and 10x and derive associated division facts. • read and write simple fractions and decimals (eg 0.5, 0.1)

Minimum sufficiency within Year 4	Typically by the end of Year 4
Learners work with whole numbers and the four operations of addition, subtraction, multiplication, and division, including number facts. They can add and subtract 1,10,100, 1000 to and from 4 digit numbers. Learners will be developing efficient formal and informal written and mental methods with increasingly large whole numbers. Learners are able to: • solve a range of problems including those that require working with simple fractions and decimals (eg 0.3) • add and subtract fractions with the same denominator. • draw shapes with accuracy using mathematical reasoning. • use measuring instruments accurately, making connections between number and place value and reading scale. • recall multiplication tables 2x, 5x, 10x, 4x, 8x, 3x, 6x ~~up to~~ and derive associated division facts. • Solve TU x U calculations	Learners are fluent with whole numbers and the four operations of addition, subtraction, multiplication, and division, including number facts and the concept of place value with numbers up to four digits. Learners will be developing efficient formal and informal written and mental methods and performing calculations accurately with increasingly large whole numbers. Learners are able to: • solve a range of problems including those that require working with simple fractions and numbers written in decimal form. • add and subtract fractions with the same denominator. • draw shapes with accuracy using mathematical reasoning. They can analyse shapes, stating their properties confidently. • use measuring instruments accurately, making connections between number and place value and reading scale. • recall the multiplication tables up to and including the 12x table and derive associated division facts. •

Minimum sufficiency within Year 5	Typically by the end of Year 5
Learners should be fluent in formal and informal written and mental methods for addition and subtraction, working with numbers up to and including four digits. Using a developing knowledge of formal methods of multiplication and division, learners should be able to solve problems involving real life situations such as measure. Learners are able to: • identify factors and multiples. • make connections between fractions, decimals and percentages (eg 50%; $\frac{5}{10}$; 0.5) and recognise equivalence, using visual representations (eg bar models) • read, write, and order decimal numbers to one decimal place. • recognise and write percentages of numbers (eg 50%, 10%, 25%) • recognise mixed numbers and improper fractions between 1 and 10 • convert between different units of metric measure (eg cm/m; mm/cm, m/Km) • classify shapes with geometric properties and use the vocabulary needed to describe them	Learners should be fluent in formal and informal written and mental methods for addition and subtraction, working with numbers of more than four digits. Using a developing knowledge of formal methods of multiplication and division, learners should be able to solve problems involving real life situations such as measure, properties of number and arithmetic with part and whole numbers. Learners are able to: • identify factors and multiples. • make connections between fractions, decimals and percentages • read, write, and use decimal numbers. • recognise and write percentages of numbers • recognise mixed numbers and improper fractions • add and subtract fractions with related denominators • convert between different units of metric measure • classify shapes with geometric properties and use the vocabulary needed to describe them.

Minimum sufficiency within Year 6	Typically by the end of Year 6
Learners should be able to use formal written methods for all four operations including long multiplication and division. They should be working confidently with fractions, decimals, percentages, and simple ratios. Learners should be able to solve a range of problems demanding efficient written and mental methods of calculation. They are beginning to use algebraic representations as a tool for problem-solving Learners are able to: • compare, order, and calculate with fractions, decimals, and percentages • use simple formulae • recognise and generate number sequences • calculate the area and volume of simple shapes • classify shapes using correct vocabulary. • measure and draw angles • interpret a range of graphs and charts and calculate the mean average	Learners should be fluent in formal written methods for all four operations including long multiplication and division. They should be working confidently with fractions, decimals, percentages, and ratios. Learners should be able to solve a wide range of problems, including increasingly complex properties of numbers and arithmetic, and problems demanding efficient written and mental methods of calculation. They are beginning to use algebraic representations as a tool for problem-solving Learners are able to: • compare, order, and calculate with fractions, decimals, and percentages • use simple formulae • recognise and generate number sequences • describe positions on the four-quadrant grid • calculate the area and volume of simple shapes • classify shapes with increasingly complex geometric properties using correct vocabulary. • measure and draw angles • interpret a range of graphs and charts and calculate the mean average

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