STA's Policies and Procedures in relation to the Supplier's delivery of the Services include those that can be found at the links set out in this Schedule 19. The documents included in this Schedule 19 where applicable have been downloaded from the links set out and are up to date as at the Effective Date:

1 National curriculum assessments: test framework

https://www.gov.uk/government/collections/national-curriculum-assessments-test-frameworks

2 KS1 English grammar, punctuation and spelling test framework

3 KS1 English reading test framework

4 KS1 mathematics test framework

5 KS2 English grammar, punctuation and spelling test framework

6 KS2 English reading test framework

7 KS2 mathematics test framework

8 Consultation outcome; Primary assessments in England

https://www.gov.uk/government/consultations/primary-assessment-in-england

From: Department for Education and Standards and Testing Agency

Part of: School and college accountability and School and college qualifications and curriculum

Published: 30 March 2017

Last updated: 14 September 2017, see all updates

Applies to: England

9 The national curriculum, KS1 and KS2

https://www.gov.uk/national-curriculum/key-stage-1-and-2

Link date: 04/01/2018

10 Primary curriculum, KS2 communications

https://www.gov.uk/education/primary-curriculum-key-stage-2

Link date: 04/01/2018

11 The national curriculum in England, KS1 and 2 framework document

12 DSAM DfE Security Assurance Model Triage Document

13 DSAM DfE Security Assurance Model – ITHC Remedial Action Plan

14 DSAM DfE Form 4, Security Assurance Report

15 DSAM DfE Residual Risk and Security Assurance Framework

16 DSAM DfE, Guidance – IT Health Check Requirements

17 DSAM DfE, Self Assessment – Security Assurance Questionnaire

GOV.UK

1. Home (https://www.gov.uk/)
2. Education, training and skills (https://www.gov.uk/education)
3. School curriculum (https://www.gov.uk/education/school-curriculum)
4. Primary curriculum, key stage 1 (https://www.gov.uk/education/primary-curriculum-key-stage-1)
5. Tests and assessments (key stage 1) (https://www.gov.uk/education/primary-curriculum-key-stage-1-tests-and-assessments)

Collection

National curriculum assessments: test frameworks

Guidance for test developers working on key stage 1 and key stage 2 national curriculum tests.

Published 31 March 2014
Last updated 29 June 2015 — see all updates

From:
Standards and Testing Agency (https://www.gov.uk/government/organisations/standards-and-testing-agency)

Contents

The test frameworks are written primarily for test developers; they will be used by item writing agencies and the Standards and Testing Agency throughout the test development process.

Teachers should not use the frameworks to guide teaching and learning. They do not provide information on how the new national curriculum should be taught.

Each test framework sets out:

- what will and will not be assessed by the test
- how each element of the subject will be assessed
- the structure of the test
- the standard a child will be expected to achieve in the test

The documents in this collection are the final test frameworks for the national curriculum tests in 2016.

Key stage 1

Test frameworks for the new key stage 1 national curriculum tests.

1. **Key stage 1: English grammar, punctuation and spelling test framework (https://www.gov.uk/government/publications/key-stage-1-english-grammar-punctuation-and-spelling-test-framework)**
    - 24 March 2016
    - Guidance

2. **Key stage 1: English reading test framework (https://www.gov.uk/government/publications/key-stage-1-english-reading-test-framework)**
    - 29 June 2015
    - Guidance
3. **Key stage 1: mathematics test framework (https://www.gov.uk/government/publications/key-stage-1-mathematics-test-framework)**
    - 29 June 2015
    - Guidance

Key stage 2

Test frameworks for the new key stage 2 national curriculum tests.

1. **Key stage 2: English grammar, punctuation and spelling test framework (https://www.gov.uk/government/publications/key-stage-2-english-grammar-punctuation-and-spelling-test-framework)**
    - 24 March 2016
    - Guidance
2. **Key stage 2: English reading test framework (https://www.gov.uk/government/publications/key-stage-2-english-reading-test-framework)**
    - 29 June 2015
    - Guidance
3. **Key stage 2: mathematics test framework (https://www.gov.uk/government/publications/key-stage-2-mathematics-test-framework)**
    - 9 July 2015
    - Guidance
4. **Key stage 2: science sampling test framework (https://www.gov.uk/government/publications/key-stage-2-science-sampling-test-framework)**
    - 29 June 2015
    - Guidance

Published 31 March 2014
Last updated 29 June 2015 + show all updates

1. 29 June 2015 Final test framework documents added to the collection
2. 7 November 2014 Corrected the date when the final frameworks will be published.
3. 31 March 2014 First published.

Related content

Tests and assessments (key stage 1) (https://www.gov.uk/education/primary-curriculum-key-stage-1-tests-and-assessments)

Key dates, sample and test materials, administration, moderation, assessing and reporting, statistics, frameworks.

- Key stage 1 tests: standard setting (https://www.gov.uk/guidance/key-stage-1-tests-standard-setting)
- Key stage 1: mathematics test framework (https://www.gov.uk/government/publications/key-stage-1-mathematics-test-framework)
- Notes for readers in the English grammar, punctuation and spelling tests (https://www.gov.uk/government/publications/notes-for-readers-in-the-english-grammar-punctuation-and-spelling-test-short-answer-questions)

Tests and assessments (key stage 2) (https://www.gov.uk/education/primary-curriculum-key-stage-2-tests-and-assessments)

Key dates, sample and test materials, administration, moderation, assessing and reporting, statistics, frameworks.

- Key stage 2 tests: how to apply for a timetable variation (https://www.gov.uk/guidance/key-stage-2-tests-how-to-apply-for-a-timetable-variation)
- Key stage 2: English reading test framework (https://www.gov.uk/government/publications/key-stage-2-english-reading-test-framework)
- Key stage 2: mathematics test framework (https://www.gov.uk/government/publications/key-stage-2-mathematics-test-framework)

National curriculum tests

Key stage 1

English grammar, punctuation and spelling test framework

National curriculum tests from 2016

For test developers

Revised March 2016

Standards & Testing Agency

2016 key stage 1 English grammar, punctuation and spelling test framework:
national curriculum tests from 2016
Electronic version product code: STA/15/7337/e ISBN: 978-1-78315-822-5

This document is available for download on the GOV.UK website at www.gov.uk/sta.

Updated version March 2016
Updates reflect the information contained in Clarification: key stage 1 and 2 teacher assessment and moderation guidance, published on 8 March 2016, at www.gov.uk/sta.

If you are already familiar with this guidance, you do not need to re-read it but should refer to the updated section below:

- section 4.4.2 – clarification on the use of exclamation marks in different forms of sentence

Contents

1. Overview

This test framework is based on the national curriculum programme of study (2014) for English, introduced for teaching in schools from September 2014 and first assessed in the summer term 2016. The framework specifies the purpose, format, content and cognitive domains of the key stage 1 English grammar, punctuation and spelling tests; it is not designed to be used to guide teaching and learning or to inform statutory teacher assessment.

This document has been produced to aid the test development process.

1.1 Purposes of statutory assessment

The main purpose of statutory assessment is to ascertain what pupils have achieved in relation to the areas of the national curriculum (2014) describing grammar, punctuation and spelling.

The main intended uses of the outcomes as set out in the Bew Report and the Government's consultation document on primary assessment and accountability are to:

- hold schools accountable for the attainment and progress made by their pupils
- inform parents and schools about the performance of individual pupils
- enable benchmarking between schools, as well as monitoring performance locally and nationally

2. What is a test framework?

The purpose of the test framework is to provide the documentation to guide the development of the tests. The framework is written primarily for those who write test materials and to guide subsequent development and test construction. It is being made available to a wider audience for reasons of openness and transparency.

Some elements of the statutory curriculum are not possible to assess using the current form of testing; they will need to be assessed by teachers as part of their statutory assessment of the complete national curriculum.

The framework includes those parts of the programme of study as outlined in the national curriculum (2014) that will be covered in the test (the content domain). The cognitive processes associated with the measurement of grammar, punctuation, vocabulary and spelling are also detailed in the cognitive domain.

The test framework also includes a test specification from which valid, reliable and comparable tests will be constructed each year. This includes specifics about test format, question types, response types, marking and a clear test-level reporting strategy.

By providing all of this information in a single document, the test framework answers questions about what the test will cover, and how, in a clear and concise manner. The framework does not provide information on how teachers should teach the national curriculum.

The test development process used by the Standards and Testing Agency (STA) embeds within it the generation of validity and reliability evidence through expert review and trialling. Given that the key stage 1 tests will be internally marked by teachers, an additional study to consider the reliability of marking will be undertaken as part of the 'technical pre-test' trial in the first year. The test framework does not provide detail of the validity and reliability of individual tests; this will be provided in the test handbook, which will be published on the DfE's website following the administration of the test.

The test framework should be used in conjunction with the national curriculum (2014) and the annual 'Assessment and reporting arrangements' (ARA) document.

3. Nature of the test

The key stage 1 English grammar, punctuation and spelling test forms part of the statutory assessment arrangements for pupils at the end of key stage 1.

The test contributes to the assessment of pupils in English and is based on the relevant sections of the national curriculum statutory programme of study (2014) for English at key stage 1. The programmes of study are set out for spoken language, reading and writing. There are two statutory appendices (Appendix 1: Spelling and Appendix 2: Vocabulary, grammar and punctuation). Although the majority of the test content is drawn from the statutory appendices, some areas of content are sampled from across the programme of study for English.

The English grammar, punctuation and spelling test will cover the aspects of the curriculum that lend themselves to paper-based testing.

The key stage 1 English grammar, punctuation and spelling test will be marked by teachers.

3.1 Population to be assessed

All eligible pupils who are registered at maintained schools, special schools or academies (including free schools) in England and are at the end of key stage 1 will be required to take the key stage 1 English grammar, punctuation and spelling test, unless they have taken it in the past.

Some pupils are exempt from the tests. Further details are in the ARA, which can be found on the GOV.UK website at www.gov.uk/sta.

3.2 Test format

The key stage 1 English grammar, punctuation and spelling test comprises two components, which are presented to pupils as two separate test papers. The first paper is spelling. The second paper presents grammar, punctuation and vocabulary questions. The test is administered on paper. The spelling paper is administered aurally by the teacher / administrator.

The tests are designed to enable pupils to demonstrate their attainment and as a result are not strictly timed since the ability to work at pace is not part of the assessment. Guidance will be provided to schools to ensure that pupils are given sufficient time to demonstrate what they understand, know and can do without prolonging the test inappropriately. Table 1 opposite provides an indication of suggested timings for each component. The total testing time is approximately 35 minutes. If teachers or administrators change the test time significantly, the test outcomes will be less reliable.

Table 1: Format of the test

Component	Description	Number of papers	Number of marks	Approximate timing of paper
Paper 1: spelling	spelling (20 words)	1	20	15 minutes
Paper 2: questions	grammar, punctuation and vocabulary	1	20	20 minutes
	Total	**2**	**40**	**Recommended 35 minutes**

4. Content domain

The content domain sets out the relevant elements from the national curriculum programme of study (2014) for English at key stage 1 that are assessed in the English grammar, punctuation and spelling test. The tests will, over time, sample from each area of the content domain.

Although the majority of the test content is drawn from the statutory appendices, some areas of content are sampled from across the programme of study for English.

Tables 2 and 3 detail content from the national curriculum (2014). These are derived from the English programmes of study for writing – vocabulary, grammar and punctuation, Appendix 1: Spelling and Appendix 2: Vocabulary, grammar and punctuation. Elements from the curriculum are grouped into content areas (e.g. 1 - Grammatical terms / word classes), each of which is made up of subdomains (e.g. 1.1 - Nouns, 1.2 - Verbs). The elements are also assigned to a numerical referencing system.

For the purposes of the English grammar, punctuation and spelling test, the areas covered under 'vocabulary' are the parts of the content domain that relate to words and word-building, such as the use of prefixes and suffixes.

Explanatory notes for Tables 2 and 3

The numerical references used in the 'Content domain reference' column are continued in the key stage 2 English grammar, punctuation and spelling test framework.

The 'Relevant coverage' column relates to the national curriculum (2014) for the English programme of study and statutory appendices.

[T] indicates that the statutory appendix to the national curriculum (2014) requires the terminology to be taught, as well as the application of the feature, which may appear elsewhere in the programme of study. In order to assess the full curriculum, grammatical terms that are used in the programme of study, but which are not required terminology, may appear in the wording of items within the tests. However, pupils will not be expected to generate this terminology in their responses.

4.1 Paper 1: spelling

This paper consists of 20 target words, presented within 20 distinct, contextualised sentences. The teacher / test administrator reads the words and sentences to pupils from a script.

The range of strategies and morphological awareness tested is drawn from the statutory spelling appendix to the national curriculum programme of study (2014). The test may include the example words, but will not be limited to these and is likely to draw on other words that assess the content described below. The appendix to the national curriculum programme of study (2014) should be consulted for definitions of the terms used in Table 2 below.

There are two sections of the statutory spelling appendix that will be assessed only in Paper 2: the possessive apostrophe (singular nouns) and contractions.

Table 2: Content domain for Paper 1

Content domain reference	Relevant coverage in the programme of study and statutory appendices
S1	the sounds */f/*, */l/*, */s/*, */z/* and */k/* spelt *ff*, *ll*, *ss*, *zz* and *ck*
S2	the *ŋ* sound spelt *n* before *k*
S3	*–tch*
S4	the */v/* sound at the end of words
S5	adding *–s* and *–es* to words (plural of nouns and the third-person singular of verbs)
S6	adding the endings *–ing*, *–ed* and *–er* to verbs where no change is needed in the root word
S7	adding *–er* and *–est* to adjectives where no change is needed in the root word
S8	vowel digraphs and trigraphs: *ai*, *oi*, *ay*, *oy*, *a–e*, *e–e*, *i–e*, *o–e*, *u–e*, *ar*, *ee*, *ea* (*/iː/*), *ea* (*/ɛ/*), *er* (*/ɜː/*), *er* (*/ə/*), *ir*, *ur*, *oo* (*/uː/*), *oo*(*/ʊ/*), *oa*, *oe*, *ou*, *ow* (*/aʊ/*), *ow* (*/əʊ/*), *ue*, *ew*, *ie* (*/aɪ/*), *ie* (*/iː/*), *igh*, *or*, *ore*, *aw*, *au*, *air*, *ear*, *ear* (*/ɛə/*), *are* (*/ɛə/*)
S9	words ending in *–y* (*/iː/* or */ɪ/*)
S10	new consonant spellings *ph* and *wh*
S11	using *k* for the */k/* sound
S12	compound words
S13	the days of the week

Content domain reference	Relevant coverage in the programme of study and statutory appendices
S14	the /dʒ/ sound spelt as *–ge* and *–dge* at the end of words, and sometimes spelt as *g* elsewhere in words before *e*, *i* and *y*
S15	the /s/ sound spelt *c* before *e*, *i* and *y*
S16	the /n/ sound spelt *kn–* and (less often) *gn–* at the beginning of words
S17	the /r/ sound spelt *wr* at the beginning of words
S18	the /l/ or /əl/ sound spelt *–le* at the end of words
S19	the /l/ or /əl/ sound spelt *–el* at the end of words
S20	the /l/ or /əl/ sound spelt *–al* at the end of words
S21	words ending in *–il*
S22	the /aɪ/ sound spelt *–y* at the end of words
S23	adding *–es* to nouns and verbs ending in *–y*
S24	adding *–ed*, *–ing*, *–er* and *–est* to a root word ending in *–y* with a consonant before it
S25	adding the endings *–ing*, *–ed*, *–er*, *–est* and *–y* to words ending in *–e* with a consonant before it
S26	adding *–ing*, *–ed*, *–er*, *–est* and *–y* to words of one syllable ending in a single consonant letter after a single vowel letter
S27	the /ɔ:/ sound spelt *a* before *l* and *ll*
S28	the /ʌ/ sound spelt *o*
S29	the /i:/ sound spelt *–ey*
S30	the /ɒ/ sound spelt *a* after *w* and *qu*
S31	the /ɜ:/ sound spelt *or* after *w*
S32	the /ɔ:/ sound spelt *ar* after *w*
S33	the /ʒ/ sound spelt *s*
S34	the suffixes *–ment*, *–ness*, *–ful*, *–less* and *–ly*
S35	words ending in *–tion*
S36	homophones and near-homophones
S37	common exception words

4.2 Paper 2: questions

Table 3: Content domain for Paper 2

Content domain reference	Relevant coverage in the programme of study and statutory appendices
G1 Grammatical terms / word classes	
G1.1 Nouns[T]	
G1.2 Verbs[T]	
G1.3 Adjectives[T]	
G1.6 Adverbs[T]	use of *–ly* in standard English to turn adjectives into adverbs
G2 Functions of sentences	
G2.1 Statements[T]	how the grammatical patterns in a sentence indicate its function as a statement
G2.2 Questions[T]	how the grammatical patterns in a sentence indicate its function as a question
G2.3 Commands[T]	how the grammatical patterns in a sentence indicate its function as a command
G2.4 Exclamations[T]	how the grammatical patterns in a sentence indicate its function as an exclamation (exclamations starting with *what* or *how* e.g. *What a good friend you are!*)
G3 Combining words, phrases and clauses	
G3.1 Sentences[T]	how words can combine to make sentences
G3.2 Noun phrases[T]	expanded noun phrases for description and specification
G3.3 Co-ordinating conjunctions	co-ordination using *or, and* and *but*
G3.4 Subordinating conjunctions	subordination using *when, if, that* and *because*

Content domain reference	Relevant coverage in the programme of study and statutory appendices
G4 Verb tenses and consistency	
G4.1a Simple past[T] and simple present[T]	simple past tense and simple present tense
G4.1d Present and past progressive	use of the progressive form of verbs in the present and past tense to mark actions in progress
G4.2 Tense consistency	tense (past, present)[T] correct choice and consistent use of present and past tense throughout writing
G5 Punctuation	
G5.1 Capital letters[T]	capital letters for names of people, places and days of the week, and for the personal pronoun *I* capital letters to demarcate sentences
G5.2 Full stops[T]	full stops to demarcate sentences
G5.3 Question marks[T]	question marks to demarcate sentences
G5.4 Exclamation marks[T]	exclamation marks to demarcate sentences
G5.5 Commas[T] in lists	commas to separate items in a list
G5.8 Apostrophes[T]	apostrophes to mark singular possession in nouns apostrophes to mark contracted forms
G6 Vocabulary	
G6.2 Prefixes	how the prefix *un–* changes the meaning of verbs and adjectives (negation or undoing)
G6.3 Suffixes	suffix[T] singular[T] plural[T] regular plural noun suffixes *–s* or *–es*, including the effects of these suffixes on the meaning of the noun suffixes that can be added to verbs where no change is needed to the spelling of the root word formation of nouns using suffixes *–ness*, *–ment*, *–er* and by compounding formation of adjectives using suffixes *–ful* and *–less* formation of adjectives using suffixes *–er* and *–est*

4.3 British English conventions

In spelling, punctuation and grammar, variations exist between British English and conventions used in other English-speaking countries. The test will only credit pupils for using British English conventions, which will relate in particular to the aspects detailed below.

4.3.1 Grammar and punctuation

Some irregular past tense forms are favoured in British English; in particular, the past participle of 'to get' will be considered creditworthy in the test when formed as *got* rather than *gotten*.

4.3.2 Spelling

Where there is a difference between British English spellings and those found in other varieties of English, it is the British English spelling that is creditworthy. This applies to words such as *colour, catalogue* or *theatre*, for which there are no alternative spellings in a standard dictionary of British English, unless they are clearly marked as an American variant.

There are other words for which alternative spellings are acceptable within British English (e.g. *organise / organize*). These are shown as equal alternatives in a standard dictionary of British English and are not marked as a variant from any other country. Either spelling of such words is considered creditworthy in the test.

4.3.3 Vocabulary

In order to be creditworthy, vocabulary used in pupils' responses must appear in a standard dictionary of British English. Where there is any difference in meaning between the dictionary definition and that used in other varieties of English or in slang, the dictionary definition will be favoured.

4.4 Further definitions and guidance

4.4.1 Sentences with different forms: questions

For the purposes of the English grammar, punctuation and spelling test, a question is required to include one of the following syntactical forms:

- an initial interrogative pronoun (e.g. *Which is your favourite?*)
- subject-verb inversion (e.g. *Is this your favourite?, Do you like this one?*)
- a correctly punctuated question tag (e.g. *This is your favourite, isn't it?*)

A sentence that has the syntax of a statement, but to which a question mark has been added is not considered to be a creditworthy question form (e.g. *This is your favourite?*), although it is recognised that they may be used in spoken language.

4.4.2 Sentences with different forms: exclamations

An exclamation is a sentence that has a particular syntax. Exclamations begin with *What* or *How* and are usually demarcated by an exclamation mark e.g.

- What a lovely day it is!
- How exciting this term has been!

A sentence that ends in an exclamation mark, but which does not have one of the grammatical patterns shown above, is not considered to be creditworthy as an exclamation (e.g. exclamatory statements, exclamatory imperatives, exclamatory interrogatives or interjections).

An exclamation mark is a punctuation mark that can end a statement, command or exclamation, or be placed after a phrase or single word (e.g. an interjection). An exclamation mark shows that the writer wants to indicate a certain effect, such as heightened emotion e.g. 'Be my friend!' [command] and will be considered creditworthy.

4.4.3 Spelling of responses within Paper 2

Correct spelling is required for the award of the mark for the majority of questions in Paper 2, especially in the following cases:

- **verb forms** – the whole word must be correctly spelt for the award of the mark
- **contractions** – the full contraction must be correctly spelt and the apostrophe correctly placed for the award of the mark
- **prefixes and suffixes** – the whole word (i.e. the root and the prefix and / or suffix) must be correctly spelt for the award of the mark
- **plurals** – the whole word must be correctly spelt in responses to questions assessing plurals for the award of the mark. The use of an apostrophe in the formation of a plural will prohibit the award of the mark, unless this is a legitimate use to indicate a possessive plural

4.4.4 The use of the serial comma

The mark will not be awarded if a serial comma is used in a list of single items, e.g.

We bought apples, cheese, and milk.

However, the serial comma is acceptable if it is used for the avoidance of ambiguity, e.g.

My favourite sandwiches are ham, beef and mustard, and tuna.

4.4.5 Accuracy in copied sentences in Paper 2

Where pupils are required to copy (or 'rewrite') a given sentence, the meaning and key words of the sentence must be preserved. Minor copying errors, such as a change of article, are tolerated. Misspellings are not penalised, unless in plurals, contractions or words requiring a prefix and / or suffix, where this is the assessment focus of the question.

4.4.6 Capital letters

Where they are required, capital letters must be clear and unambiguous for the award of the mark. Where letters do not have unique capital letter forms, this means that the height of the capital letter will be similar to the height of letters with ascenders and will be clearly greater than the height of letters that do not have ascenders. For example, in the word 'What', the height of the capital letter 'W' should be a similar height to, or taller than, the 'h'.

Where pupils need to write, rewrite or complete a sentence, capital letters within a sentence will be marked as incorrect, unless used to start a proper noun or the pronoun 'I'. This includes where an entire word is capitalised, for example for emphasis. Incorrect use of capital letters negates an otherwise correct response and will be marked as incorrect.

Where pupils are asked to write a short response that is not part of a sentence (for example, if they are asked to write a word or phrase in a box or table), the use of capital letters will not be taken into account when deciding whether the mark should be awarded. The only exception to this is if the word is a proper noun; in this case, a capital letter will be required for the award of the mark.

5. Cognitive domain

The cognitive domain seeks to make the thinking skills and intellectual processes required for the key stage 1 English grammar, punctuation and spelling test explicit. Each question will be rated against the four strands of the cognitive domain listed in Table 4 below to provide an indication of the cognitive demand.

The cognitive domain will be used during test development to ensure comparability of demand as well as difficulty for tests in successive years.

Table 4: Cognitive classifications

Classification	Description	Ratings scale
Cognitive level	a three-point scale indicating the degree of cognitive complexity associated with the operation required by the question	1 (low) – 3 (high)
Response strategy	a four-point scale, subcategorising the selected and constructed question formats used for the test according to their respective levels of demand	1 (low) – 4 (high)
Abstraction rating	a three-point scale, indicating the familiarity of the question's vocabulary and context for the test population	1 (low) – 3 (high)
Strategy support rating	a three-point scale, indicating the level of support offered within the question and the extent to which pupils need to organise and strategise their own responses	1 (low) – 3 (high)

A detailed explanation of each of the four dimensions follows in sections 5.1 – 5.4.

The square brackets [ ] in the following tables are used to identify examples of content in questions. These could be substituted for a range of features.

5.1 Cognitive level

The cognitive level is classified within a three-point taxonomy.

Table 5: Cognitive level

Question dimension	Knowledge and comprehension (low)	Application and analysis	Synthesis and evaluation (high)
Explanation	remembers learnt information and demonstrates an understanding of the facts identifies linguistic features and understands their use	applies knowledge to given linguistic contexts categorises and analyses examples of language	compiles component ideas or proposes alternative solutions makes comparisons and judgements about the uses of language and punctuation
Example question stems	What is the name of the punctuation mark below? Circle two [verbs] in this sentence.	Complete the sentence below with an [adjective] that makes sense. Categorise these [types of sentence].	Not used in the key stage 1 test.

5.2 Response strategy

The response complexity is considered within a scale that ranges from closed to extended response formats, subcategorised into a number of types.

Table 6: Response strategy

Response format	Selected response	Constructed response: data transformation	Constructed response: prompted	Constructed response: independent
Explanation	selecting the correct response or identifying a feature from a given field of data	transforming a given word, phrase or sentence	inserting a word or phrase within a given target sentence, following a specific prompt	open response, without a prompt or frame within which to write
Example item stems	Tick to show... Circle all the [verbs] in the sentence below.	Rewrite the sentence below, changing it to [past] tense. Replace the underlined words with a [contraction].	Add an [adjective] to complete the sentence.	Write a statement about... Explain why a [comma] is needed in the sentence below.

5.3 Abstraction rating

The abstraction rating is an indicator of the familiarity of the question for the test population. It takes into account the concreteness or abstractness of the concepts involved and the likely familiarity of the vocabulary and context for the test population.

Table 7: Abstraction rating

Abstraction rating	1	2	3
Description	The vocabulary and context will be familiar to the majority of pupils taking the test.	The vocabulary and context may fall outside the pupil's immediate personal experience, but are nonetheless familiar through coverage in the primary national curriculum, pupils' literature or the media.	The vocabulary and context will be the least familiar and are likely to be outside the direct experience of those sitting the tests.
Examples of contexts or vocabulary	school-based situations domestic and family scenarios, including high-frequency vocabulary for family members high-frequency vocabulary for food items, weather, the human body or clothing colours public transport hobbies, e.g. swimming	topics covered in other primary curriculum subjects, e.g. science and nature, animals visits, e.g. school trips, parks, shopping or beaches	low frequency spellings / vocabulary appropriate adult scenarios, e.g. workplaces that pupils rarely encounter

5.4 Strategy support rating

The strategy support rating indicates the extent to which the pupil must arrive independently at an understanding of the question requirements, response method and answer format.

Table 8: Strategy support rating

Strategy support rating	1	2	3
Description	indicates questions that provide a high level of support, such as by providing an exemplar response [that shows the method]	indicates questions that provide some level of support, such as a target sentence that contextualises the pupil's response	indicates questions that do not include any support, and in which the pupil is therefore required to interpret the vocabulary, method and expected answer format independently

6. Test specification

This section provides details of each test component.

6.1 Summary

The test comprises two components, which will be presented to pupils as two separate papers.

Table 9: Format of the test

Component	Description	Number of papers	Number of marks	Approximate timing of paper
Paper 1: spelling	spelling (20 words)	1	20	15 minutes
Paper 2: questions	grammar, punctuation and vocabulary	1	20	20 minutes
	Total	**2**	**40**	**Recommended 35 minutes**

6.2 Breadth and emphasis

The content and cognitive domains for the English grammar, punctuation and spelling test are specified in sections 4 and 5. The test will sample from the content domain in any given year. Although every element may not be included within each test, the full range of content detailed in this document will be assessed over time. The questions in each test will be placed in an approximate order of difficulty.

The following sections show the proportion of marks attributed to each of the areas of the content and cognitive domains in a test.

6.2.1 Profile of content domain

Table 10 shows the proportion of marks allocated to each element of the content domain. This allocation will allow coverage of the relevant areas of the national curriculum (2014) over time. The content domain is subdivided into four elements: grammar, punctuation, vocabulary and spelling.

Table 10: Profile of marks by content area

Paper	Element of content domain	Number of marks	Percentage of total mark
Paper 1: spelling	spelling	20	50%
Paper 2: questions	grammar	10–15	25–38%
	punctuation	5–10	13–25%
	vocabulary	1–3	3–8%
	Total	**40**	

6.2.2 Profile of cognitive domain

The cognitive domain is specified in section 5. The content domain may be tested through questions across any combination of the four cognitive dimensions, according to the explanations given in Table 11 below.

Table 11: Profile of cognitive domain by component

Component	Cognitive level	Response complexity	Abstraction rating	Strategy support rating
Paper 1: spelling	cognitive level 2 application and analysis	complexity level 3 prompted constructed response	drawn from ratings 1–2	an example showing the expected answer format / method will be provided for the pupil
Paper 2: questions	drawn from cognitive levels 1–2	drawn from complexity levels 1–4, within limits for selected and constructed formats defined below*	drawn from ratings 1–2	drawn from across ratings 1–3 in the introduction to the paper, example formats of common item types will be provided

*In Paper 2, the majority of questions in any test are selected responses, as detailed in Table 12.

6.2.3 Question selection and organisation

The words for the spelling task are selected from a large bank of trialled content. The words are selected to take account of pupils' developing ability to spell a wide range of words accurately and to apply the strategies specified in the content domain. The words are presented in order of spelling difficulty.

Trialling is used to determine how each word functions statistically. Words included in the spelling paper are selected to ensure an appropriate range of difficulty so that pupils at the end of key stage 1 are able to demonstrate performance and standards are maintained.

Questions in Paper 2 are, as far as possible, placed in order of difficulty. The difficulty of individual questions is determined quantitatively from trialling data.

6.3 Format of questions and responses

6.3.1 Paper 1: spelling

Paper 1 consists of 20 target words. Spellings will be presented within distinct, contextualised sentences. The teacher / test administrator will read the words and sentences aloud to pupils from a script.

6.3.2 Paper 2: questions

Paper 2 comprises short-answer questions.

Teachers / test administrators may choose to read the questions aloud with a pupil, small group of pupils or the whole class.

Questions are categorised into two broad formats:

- **selected response** – requiring selection of the correct answer
- **constructed response** – requiring the pupil to write a short answer of his or her own within a specified format

The proportion of each format that will appear in any single test is given in Table 12.

Table 12: Profile of marks by response category in Paper 2

Question type	Range of marks	Percentage of Paper 2 marks
Selected response	13–17	65–85%
Constructed response	3–7	15–35%

These formats are further categorised into the following subtypes:

Table 13: Question subtypes used in Paper 2

Question type	Rubric subtype
Selected response	'Identify...'
	'Match...'
Constructed response	'Complete / correct / rewrite...'
	'Write...'
	'Explain...'

In Paper 2, most responses will require only a tick, circle, line or short written response. Some test questions do require a full sentence to be written but these will usually be placed towards the end of the paper in order to allow pupils every opportunity to gain more straightforward marks easily.

The stems in the table below are indicative of the rubric used in live test questions for each subtype, although actual questions may differ from, and are not limited to, the examples given. The question types below can be asked using selected or constructed response types.

Table 14: Question stems in Paper 2

Question stem type	Definition	Common examples
Identify	These questions test pupils' knowledge of particular terminology, language or punctuation features by requiring them to identify the correct response from a given selection. In most cases, they will have to tick, underline or circle the response.	Tick one word to complete the sentence below. Circle the word / words that... Which sentence uses [capital letters] correctly?
Match	These questions require the pairing of two different elements printed on the page, so that the pupils indicate their response by drawing a line, and do not need to write.	Draw lines to match each sentence to [its type].
Complete / correct / rewrite	These questions usually require pupils to insert or generate a specified type of response within a given structure, either to complete the target sentence or to correct an error within it.	Copy the sentence below. Add [punctuation] where necessary.

Question stem type	Definition	Common examples
Write	These questions require pupils to generate their own examples of specified language, or to label given language with a technical term.	Write a command including the word ['Look'].
Explain	These questions require pupils to express their understanding of particular terminology and language features by requiring them to analyse and explain, in their own words, how or why that element is used.	The sentence below has [an apostrophe] missing. Explain why it needs [an apostrophe]. Why is the [adverb] used in the sentence below?

6.4 Marking and mark schemes

The key stage 1 tests will be marked internally by teachers.

Full mark schemes will be provided for all aspects of the test, with particular detailed focus on marking principles and any constructed response items within Paper 2, in order to maximise the reliability of marking.

The mark schemes will give specific guidance for the marking of each question, together with general principles to ensure consistency of marking.

The mark schemes will provide the total number of marks available for each question and the criteria by which teachers should award the marks to pupils' responses. Where multiple correct answers are possible, examples of different types of correct answer will be given in the mark schemes. Where applicable, additional guidance will indicate minimally acceptable and unacceptable responses.

The mark schemes will be developed during the test development process and will combine the expectations of experts with examples of pupils' responses obtained during trialling.

For multi-mark questions, if the correct answer is not reached and, therefore, full marks cannot be awarded, the mark scheme will indicate how partial credit can be awarded.

The mark schemes will contain the following information:

- the question
- a content domain reference
- the mark allocation
- square bullets indicating the required responses / acceptable points
- round bullets exemplifying pupils' responses from the trials
- for multi-mark questions, the examples awarded higher marks will usually be placed before the examples awarded lower marks

There will be a system of sampling and moderation of marking organised by STA to ensure consistency between schools. Full details will be available in the ARA.

6.5 Reporting

The raw score on the test (the total marks achieved out of the 40 marks available) will be converted into a scaled score using a conversion table. Translating raw scores into scaled scores ensures performance can be reported on a consistent scale for all pupils. Scaled scores retain the same meaning from one year to the next. Therefore, a particular scaled score reflects the same standard of attainment in one year as in the previous year, having been adjusted for any differences in difficulty of the test.

Additionally, each pupil will receive an overall result indicating whether or not he or she has achieved the required standard on the test. A standard-setting exercise will be conducted on the first live test in 2016 to determine the scaled score needed for a pupil to be considered to have met the standard. This process will be facilitated by the performance descriptor in section 6.7, which defines the performance level required to meet the standard. In subsequent years, the standard will be maintained using appropriate statistical methods to translate raw scores on a new test into scaled scores with an additional judgemental exercise at the expected standard. The scaled score required to achieve the expected standard on the test will remain the same.

6.6 Desired psychometric properties

While the focus of the outcome of the test will be whether a pupil has achieved the expected standard, the test must measure pupils' ability across the spectrum of attainment. As a result, the test must aim to minimise the standard error of measurement at every point on the reporting scale, particularly around the expected standard threshold.

The provision of a scaled score will aid in the interpretation of pupils' performance over time as the scaled score that represents the expected standard will be the same year-on-year. However, at the extremes of the scaled score distribution, as is standard practice, the scores will be truncated such that above or below a certain point all pupils will be awarded the same scaled score to minimise the effect for pupils at the ends of the distribution, where the test is not measuring optimally.

6.7 Performance descriptor

This performance descriptor describes the typical characteristics of pupils whose performance in the key stage 1 test is at the threshold of the expected standard. Pupils who achieve the expected standard in the tests have demonstrated sufficient knowledge to be well-placed to succeed in the next phase of their education, having studied the aspects of the key stage 1 programme of study in English assessed by this test. This performance descriptor will be used by panels of teachers to set the standards on the new tests following their first administration in May 2016. It is not intended to be used to support teacher assessment, since it reflects only the elements of the programme of study that can be assessed in a written test (see content domain in section 4).

6.7.1 Overview

Pupils working at the expected standard will be able to engage with all questions within the test. However, they will not always achieve full marks on each question, particularly if working at the threshold of the expected standard.

Questions will range from those requiring recall of facts to those requiring application and analysis. There will be a variety of question formats including selected response, short answer and constructed response.

Question difficulty will be affected by strands of the cognitive domain such as how abstract the task is and the extent to which support is given in the question to help pupils organise their response. This should be borne in mind when considering the remainder of this performance descriptor, since pupils working at the threshold of the expected standard may not give correct responses to all questions. This will be true even when the performance descriptor determines that a skill should be within the pupil's capacity if working at the expected standard.

The following sections describe the typical characteristics of pupils in Year 2 working at the threshold of the expected standard. It is recognised that different pupils will exhibit different strengths, so this is intended as a general guide rather than a prescriptive list.

6.7.2 Spelling

Pupils working at the expected standard are able to spell simple monosyllabic and polysyllabic words, including common exception words and homophones and near-homophones.

6.7.3 Grammar and vocabulary

Pupils working at the expected standard are able to:

- demonstrate familiarity with some word classes, their terminology and their use: nouns, verbs, adjectives and adverbs
- recognise and write different types of sentences: statements, questions, commands and exclamations
- understand that co-ordinating conjunctions (*and, or, but*) and subordinating conjunctions (*when, if, that, because*) link words and clauses, and use them to construct and extend sentences
- combine given words to make clauses or sentences, or expand noun phrases
- identify and use the present or past tense forms of familiar, regular verbs and some irregular verbs (e.g. *has / had*), including the progressive form
- understand that the prefix *un–* can change the meaning of some words
- use some suffixes to form nouns, adjectives and adverbs

6.7.4 Punctuation

Pupils working at the expected standard are able to:

- identify and use appropriate end punctuation to demarcate different sentence types (full stop, question mark and exclamation mark)
- identify and use a capital letter to start a sentence, for names of people, places, days of the week and for the personal pronoun *I*
- use commas to separate items in a list
- use apostrophes to indicate simple contracted verb forms
- use apostrophes to denote singular possession

7. Diversity and inclusion

The Equality Act 2010 sets out the principles by which national curriculum assessments and associated development activities are conducted. During the development of the tests, STA's test development division will make provision to overcome barriers to fair assessment for individuals and groups wherever possible.

National curriculum assessments will also meet Ofqual's core regulatory criteria. One of the criteria refers to the need for assessment procedures to minimise bias: 'The assessment should minimise bias, differentiating only on the basis of each learner's ability to meet national curriculum requirements' (Regulatory framework for national assessment, published by Ofqual 2011).

The end of key stage 1 English grammar, punctuation and spelling test should:

- use appropriate means to allow all pupils to demonstrate their knowledge in grammar, punctuation, vocabulary and spelling
- provide a suitable challenge for all pupils and give every pupil the opportunity to achieve as high a standard as possible
- provide opportunities for all pupils to achieve, irrespective of gender, disability or special educational need, social, linguistic or cultural backgrounds
- use materials that are familiar to pupils and for which they are adequately prepared
- not be detrimental to pupils' self-esteem or confidence
- be free from stereotyping and discrimination in any form

The test development process uses the principles of universal design, as described in the 'Guidance on the principles of language accessibility in national curriculum assessments' (New language accessibility guidance, published by Ofqual 2012).

In order to improve general accessibility for all pupils, where possible, questions will be placed in order of difficulty. As with all national curriculum tests, attempts have been made to make the question rubric as accessible as possible for all pupils, including those who experience reading and processing difficulties and those for whom English is an additional language, while maintaining an appropriate level of demand to adequately assess the content. This includes applying the principles of plain English and universal design wherever possible, conducting interviews with pupils and taking into account feedback from expert reviewers.

For each test in development, expert opinions on specific questions are gathered, for example, at inclusion panel meetings, which are attended by experts and practitioners from across the fields of disabilities and special educational needs. This provides an opportunity for some questions to be amended or removed in response to concerns raised.

Issues likely to be encountered by pupils with specific learning difficulties have been considered in detail. Where possible, features of questions that lead to construct irrelevant variance (for example, question formats and presentational features) have been considered and questions have been presented in line with best practice for dyslexia and other specific learning difficulties.

7.1 Access arrangements

The full range of access arrangements applicable to key stage 1 assessments as set out in the ARA will be available to eligible pupils as required.

Teachers are able to vary the administration arrangements for pupils according to their need. Where arrangements are varied, it should follow normal classroom practice for assessments of this type.

7.2 Pupils with English as an additional language (EAL)

Pupils with English as an additional language should be registered for the national curriculum tests. If a pupil's limited ability to communicate in English means that he or she is unable to access the test, then they will be working below the standard of the English tests and should not take them, as set out in the ARA.

7.3 Compensatory marks

Compensatory marks for spelling will be available for eligible pupils. Consistent with the 'Assessment and reporting arrangements', these will be based on the mean average scores that pupils achieved during the technical pre-test.

Appendix: Glossary of terminology used in the test framework

cognitive domain	Cognitive processes refer to the thinking skills and intellectual processes that occur in response to a stimulus. The cognitive domain makes explicit the thinking skills associated with an assessment. The cognitive domain, as shown in this framework, also identifies other factors that may influence the difficulty of the questions.
component	A section of a test, presented to pupils as a test paper or test booklet. Some tests may have two or more components that each pupil needs to sit to complete the test. The English grammar, punctuation and spelling test comprises two components.
construct irrelevant variance	Construct irrelevant variance is the variation in pupils' test scores that does not come from their knowledge of the content domain. It can result in pupils gaining fewer marks than their knowledge would suggest or lead to the award of more marks than their knowledge alone would deserve. The former can occur, for example, when questions in a mathematics test also unintentionally measure reading ability. The latter often occurs when unintended clues within questions allow pupils to answer correctly without having the required subject knowledge.
content domain	The body of subject knowledge to be assessed by the test.
distribution	The range of possible scaled scores.
domain	The codified definition of a body of skills and knowledge.
mark scheme	The document explaining the creditworthy responses or the criteria that must be applied to award the mark for a question in the test.
national curriculum programme of study	The statutory description of subject knowledge, skills and understanding for a given key stage. The key stage 1 and 2 programmes of study are published online at: https://www.gov.uk/government/publications/national-curriculum-in-england-primary-curriculum
performance descriptor	Description of the typical characteristics of pupils working at a particular standard. For these tests, the performance descriptor will characterise the minimum performance required to be working at the appropriate standard for the end of the key stage.

raw score	The unmodified score achieved on a test, following marking. In the case of these tests it is the total marks achieved. For example, if a pupil scores 27 out of 60 possible marks, the raw score is 27. Raw scores are often then converted to other measures such as percentile ranks, standardised scores or grades.
scaled score	A score which has been translated from a raw score into a score on a fixed, defined scale. This allows performance to be reported on a consistent scale for all pupils, which retains the same meaning from one year to the next. Therefore, a particular scaled score reflects the same level of attainment in one year as in the previous year, having been adjusted for any differences in difficulty of the specific tests.
standard	The required level of attainment in order to be classified into a particular performance category.
standard error of measurement	A reliability estimate that allows the user to determine a confidence interval around a test score. It is a measure of the distribution of scores that would be attained by a pupil had that pupil taken the test repeatedly under the same conditions.
standard setting	The process of applying the standard to a particular test to determine the score required for a pupil to be classified within a particular performance category.
test framework	A document that sets out the principles, rationale and key information about the test, and containing a test specification.
test specification	A detailed description of what is to be included in a test in any single cycle of development.
truncate	To shorten by removing ends.

References

Independent review of key stage 2 testing, assessment and accountability (2011), Lord Bew.
www.gov.uk/government/collections/key-stage-2-ks2-testing-review

Standards & Testing Agency

About this publication

Who is it for?

This document is primarily aimed at those responsible for developing the key stage 1 national curriculum test in English grammar, punctuation and spelling. It may also be of interest to schools with pupils in key stage 1 and other education professionals.

What does it cover?

Detailed information to ensure an appropriate test is developed, including the:

- content domain
- cognitive domain
- test specification
- test performance descriptor

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National curriculum tests

Key stage 1

English reading test framework

National curriculum tests from 2016

For test developers

Standards & Testing Agency

2016 key stage 1 English reading test framework: national curriculum tests from 2016
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Contents

1. Overview

This test framework is based on the national curriculum programme of study (2014) for English, introduced for teaching in schools from September 2014 and first assessed in the summer term 2016. The framework specifies the purpose, format, content and cognitive domains of the key stage 1 English reading tests; it is not designed to be used to guide teaching and learning or to inform statutory teacher assessment.

This document has been produced to aid the test development process.

1.1 Purposes of statutory assessment

The main purpose of statutory assessment is to ascertain what pupils have achieved in relation to the attainment targets outlined in the national curriculum (2014) in English reading.

The main intended uses of the outcomes as set out in the Bew Report and the Government's consultation document on primary assessment and accountability are to:

- hold schools accountable for the attainment and progress made by their pupils
- inform parents and schools about the performance of individual pupils
- enable benchmarking between schools, as well as monitoring performance locally and nationally

2. What is a test framework?

The purpose of the test framework is to provide the documentation to guide the development of the tests. The framework is written primarily for those who write test materials and to guide subsequent development and test construction. It is being made available to a wider audience for reasons of openness and transparency.

Some elements of the statutory national curriculum are not possible to assess using the current form of testing; they will need to be assessed by teachers as part of their statutory assessment of the complete national curriculum.

The framework includes those parts of the programme of study as outlined in the national curriculum (2014) that will be covered in the test (the content domain). The cognitive processes associated with the measurement of English reading are also detailed in the cognitive domain.

The test framework also includes a test specification from which valid, reliable and comparable tests will be constructed each year. This includes specifics about test format, question types, response types, marking and a clear test-level reporting strategy.

By providing all of this information in a single document, the test framework answers questions about what the test will cover, and how, in a clear and concise manner. The framework does not provide information on how teachers should teach the national curriculum.

The test development process used by the Standards and Testing Agency (STA) embeds within it the generation of validity and reliability evidence through expert review and trialling. Given that the key stage 1 tests will be internally marked by teachers, an additional study to consider the reliability of marking will be undertaken as part of the 'technical pre-test' trial in the first year. The test framework does not provide detail of the validity and reliability of individual tests; this will be provided in the test handbook, which will be published on the DfE's website following the administration of the test.

The test framework should be used in conjunction with the national curriculum (2014) and the annual 'Assessment and reporting arrangements' (ARA) document.

3. Nature of the test

The key stage 1 English reading test forms part of the statutory assessment arrangements for pupils at the end of key stage 1.

The test is based on the relevant sections of the national curriculum statutory programme of study (2014) for English reading at key stage 1.

The reading test will cover the aspects of the curriculum that lend themselves to paper-based testing.

The key stage 1 English reading test will be internally marked by teachers.

3.1 Population to be assessed

All eligible pupils who are registered at maintained schools, special schools or academies (including free schools) in England and are at the end of key stage 1 will be required to take the key stage 1 English reading test, unless they have taken it in the past.

Some pupils are exempt from the tests. Further details are in the ARA, which can be downloaded from the GOV.UK website at www.gov.uk/sta.

3.2 Test format

The key stage 1 English reading test comprises two components. The first component is an integrated reading and answer booklet, and the second component consists of a reading booklet with a separate answer booklet.

The test is administered on paper.

Pupils should be given the opportunity to attempt both components but teachers can stop a pupil at any stage of the test that they feel is appropriate for that particular pupil.

The tests are designed to enable pupils to demonstrate their attainment and as a result are not strictly timed since the ability to work at pace is not part of the assessment. Guidance will be provided to schools to ensure that pupils are given sufficient time to demonstrate what they understand, know and can do without prolonging the test inappropriately. Table 1 provides an indication of suggested timings for each component. The total testing time is approximately 70 minutes. If teachers or administrators change the time of the test significantly, the test outcomes will be less reliable.

The first reading paper comprises a selection of text(s) with questions interspersed. This component contains 20 marks.

The second reading paper comprises a selection of texts and an associated reading answer booklet . This component contains 20 marks.

Table 1: Format of the test

Component	Description	Number of papers	Number of marks	Approximate timing of paper
Paper 1: English reading test	reading booklet with reading questions and answer space combined (a selection of texts, 400–700 words)	1	20	30 minutes
Paper 2: English reading test	reading booklet and separate answer booklet (a selection of texts, 800–1100 words)	1	20	40 minutes
	Total	**2**	**40**	**Recommended 70 minutes**

3.3 Phonics in relation to national assessment from 2016

Schools should note that the KS1 English reading test is a test of reading comprehension and will not contain any content based on phonic decoding. Phonic awareness will continue to be assessed in the Key Stage 1 Phonics screening check which will continue, unchanged, in its established format. Further information about the format and assessable content domain of the Phonics screening check can be found in the Assessment framework for the development of the Year 1 phonics screening check which can be downloaded from the GOV.UK website at www.gov.uk/sta.

4. Content domain

The content domain sets out the relevant elements from the national curriculum programme of study (2014) for English at key stage 1 that are assessed in the English reading test. The tests will, over time, sample from each area of the content domain.

The key stage 1 English reading tests will focus on the comprehension elements of the national curriculum.

Table 2 shows the content domain, which sets out how elements of the curriculum will be defined for test development purposes.

Table 2: Content domain relating to questions

Content domain reference	
1a	draw on knowledge of vocabulary to understand texts
1b	identify / explain key aspects of fiction and non-fiction texts, such as characters, events, titles and information
1c	identify and explain the sequence of events in texts
1d	make inferences from the text
1e	predict what might happen on the basis of what has been read so far

5. Cognitive domain

The cognitive domain seeks to make the thinking skills and intellectual processes required for the key stage 1 English reading test explicit. Each question will be rated against the five strands of the cognitive domain listed in the sections below to provide an indication of the cognitive demand. Information on how the questions are rated is shown in section 5.1.

The cognitive domain will be used during test development to ensure comparability of demand as well as difficulty for tests in successive years.

STA considers that the text brings another dimension to the cognitive scale and is an essential feature of the test and question demand.

5.1 Descriptions of each strand of the cognitive domain

In the following tables, descriptors are provided for the top and bottom of the rating scale. Judgement is then used to categorise questions appropriately on the rest of the scale. The cognitive scale presented in this framework assumes age-appropriate texts and is a stand-alone scale for national curriculum assessments at the end of key stage 1.

Each of the strands below must be considered in the context of the national curriculum for English reading at key stage 1.

5.1.1 Accessibility of the target information

This strand relates to the accessibility of the target information that is needed to answer the question. This means:

- the number and proximity of features that need to be located in the text
- the extent to which the location of the information within the text is identified in the question
- the extent to which competing information in the text and / or distractors may mistakenly be selected

It can be thought of as, 'Where can the information be found?'

Table 3: Strand A – Accessibility of the target information

A1 (Low)	A2	A3	A4 (High)
The information that needs to be located is basic, highly prominent and limited to one or two pieces. It is clearly located by question wording and limited to a short section of the text. Competing information is limited.			The target information is not strongly located by the question. It is not prominent within the text, and not limited to one or two pieces. There is significant competing information, either within the text or in the form of functional distractors.

5.1.2 Complexity of the target information

This strand relates to the complexity of the target information that is needed to answer the question. This means:

- the lexico-grammatical density of the stimulus
- the level of concreteness / abstractness of the target information
- the level of familiarity of the information needed to answer the question

It can be thought of as, 'What is the language of the text like?'

Table 4: Strand B – Complexity of the target information

B1 (Low)	B2	B3	B4 (High)
Target information has a low level of abstractness and lexico-grammatical density, is largely familiar to pupils and is easily cued by the wording of the task.			Target information has a high level of abstractness and lexico-grammatical density and a low level of familiarity. There is a low level of semantic match between task wording and relevant information in the text.

5.1.3 Task-specific complexity

This strand relates to task-specific complexity. This means:

- the degree of cognitive complexity involved in answering the question, from retrieval through to inference and higher-level skills

It can be thought of as, 'How much work is needed to answer the question?'

Table 5: Strand C – Task-specific complexity

C1 (Low)	C2	C3	C4 (High)
Requires only simple retrieval, with little / no inference and has concrete task requirements.			There are complex inference and abstract task requirements.

5.1.4 Response strategy

This strand relates to response strategy. This means:

- the complexity of the written response required
- the extent to which pupils need to organise / structure their response

It can be thought of as, 'How easy is it to organise and present the answer?'

Table 6: Strand D – Response strategy

D1 (Low)	D2	D3	D4 (High)
Answers will be limited to multiple choice or a few words and will require little organisation; the structure of response required will be clearly indicated in the question or answer booklet.			Answers are extended, and require pupils to fully structure and organise their own responses.

5.1.5 Technical knowledge required

This strand relates to the technical knowledge required. This means:

- the extent of knowledge of vocabulary required by the question
- the subject-specific technical language and knowledge required that is not given in text

It can be thought of as, 'How complex is the language of the question and / or the knowledge needed to answer it?'

Table 7: Strand E – Technical knowledge required

E1 (Low)	E2	E3	E4 (High)
No complex word meanings or subject-specific technical language is required.			Knowledge of complex word meanings and subject-specific technical language required.

6. Test specification

This section provides details of each test component.

6.1 Summary

The test comprises two components: one integrated reading and answer booklet, and one reading booklet with separate answer booklet.

1. **Combined reading and answer booklet:** Lower demand – integrated reading and answer booklet. Teachers will read the beginning of the text(s) aloud to the pupils and also read aloud any supporting words that are provided.
2. **Reading booklet and reading answer booklet:** Higher demand – separate reading booklet with associated reading answer booklet.

All pupils will have access to all test components, with teachers using their judgement as to when to withdraw the pupil from the test.

Table 8: Format of the test

Component	Description	Number of papers	Number of marks	Approximate timing of paper
Paper 1: English reading test	reading booklet with reading questions and answer space combined (a selection of texts, 400–700 words)	1	20	30 minutes (includes reading time)
Paper 2: English reading test	reading booklet and separate answer booklet (a selection of texts, 800–1100 words)	1	20	40 minutes (includes reading time)
	Total	**2**	**40**	**Recommended 70 minutes**

6.2 Breadth and emphasis

The content and cognitive domains for the English reading test are specified in sections 4 and 5. The test will sample from the content domain in any given year. Although every element may not be included within each test, the full range of content detailed in this document will be assessed over time. The questions in each test are placed in order of difficulty, where possible, whilst maintaining chronology with the text.

The following sections show the proportion of marks attributed to each of the areas of the content and cognitive domains in a test.

6.2.1 Range of texts

A range of texts will be included in the tests, including fiction, non-fiction and poetry.

Texts will be appropriate in terms of content and difficulty for pupils aged 7. This will include texts that are age-appropriate (themes in narratives will be familiar and non-fiction texts will be suitable for 6–7 year olds) and that require comprehension skills. The demand of the text will increase throughout the reading booklet.

6.2.2 Profile of content domain

The national curriculum coverage within the test is specified in the content domain in section 4. The proportion of marks assessing each area of the content domain is shown in Table 9.

Table 9: Profile of marks by content area

Content domain reference	Number of marks	Percentage of total mark
1a draw on knowledge of vocabulary to understand texts	1–8	3–20%
1b identify / explain key aspects of fiction and non-fiction texts, such as characters, events, titles and information	16–32	40–80%
1c identify and explain the sequence of events in texts	0–3	0–8%
1d make inferences from the text	4–14	10–35%
1e predict what might happen on the basis of what has been read so far	0–2	0–5%

6.2.3 Profile of cognitive domain

The cognitive domain is specified in section 5. Taking into account the target information and the task itself, each question will be rated in terms of demand against each of the five strands of the cognitive domain.

For cognitive strands A, B and C, there will be questions across the range of demand 1–4, predominantly at 2 to 4.

For strand D, the range of questions across the cognitive domain will be in the following approximate proportions.

Table 10: Profile of ratios for strand D

Strand	Percentage of total marks
D1	30–60%
D2 and D3	30–60%
D4	5–15%

For strand E, the majority of questions will be at E1 and E2.

6.3 Format of questions and responses

Table 11 shows how marks will be distributed across different mark tariffs.

Table 11: Profile of mark tariffs

Mark tariffs	Range of marks at mark tariff
1 mark questions	34–36 marks
2 mark questions	2–6 marks (1–3 questions)

The question types in the test will be distributed across the selected and constructed response questions in the proportions shown in the table. The range of question types are exemplified by, but not limited to, those listed in Table12.

Table 12: Profile of marks by question type

Selected or constructed response	Question types	Example questions
Selected response 30–50%	Multiple choice	What is Lucy looking for in the story? Tick one of the boxes below.
	Ranking / ordering	Number the events below to show the order in which they happen in the story.
	Matching	Match the character to what they do in the story.
	Labelling	Label the text to show the title…
Short response 30–60%	Find and copy	Find and copy one word that shows…
	Short response	What does the bear eat?
Extended response 5–15%	Open-ended response	Why did Lucy write the letter to her grandmother? Give two reasons.

6.4 Marking and mark schemes

The key stage 1 tests will be marked internallyby teachers.

The mark schemes will give specific guidance for the marking of each question, together with general principles to ensure consistency of marking.

The mark schemes will provide the total number of marks available for each question and the criteria by which teachers should award the marks to pupils' responses. Where multiple correct answers are possible, examples of different types of correct answer will be given in the mark schemes. Where applicable, additional guidance will indicate minimally acceptable and unacceptable responses.

The mark schemes will be developed during the test development process and will combine the expectations of experts with examples of pupils' responses obtained during trialling.

For multi-mark questions, if the correct answer is not reached and, therefore, full marks cannot be awarded, the mark scheme will indicate how partial credit can be awarded.

The mark schemes will contain the following information:

- the question
- a content domain reference
- the mark allocation
- square bullets indicating the required responses / acceptable points
- round bullets exemplifying pupils' responses from the trials
- on 2 mark questions, the examples awarded higher marks will usually be placed before the examples awarded lower marks
- open 2 mark questions will also consider the pupil's ability to express their reasoning through developed answers

There will be a system of sampling and moderation of marking organised by STA to ensure consistency between schools. Full details will be available in the ARA.

6.5 Reporting

The raw score on the test (the total marks achieved out of the 40 marks available) will be converted into a scaled score using a conversion table. Translating raw scores into scaled scores ensures performance can be reported on a consistent scale for all pupils. Scaled scores retain the same meaning from one year to the next. Therefore, a particular scaled score reflects the same standard of attainment in one year as in the previous year, having been adjusted for any differences in difficulty of the test.

Additionally, each pupil will receive an overall result indicating whether or not he or she has achieved the required standard on the test. A standard-setting exercise will be conducted on the first live test in 2016 to determine the scaled score needed for a pupil to be considered to have met the standard. This process will be facilitated by the performance descriptor in section 6.7, which defines the performance level required to meet the standard. In subsequent years, the standard will be maintained using appropriate statistical methods to translate raw scores on a new test into scaled scores with an additional judgemental exercise at the expected standard. The scaled score required to achieve the expected standard on the test will remain the same.

6.6 Desired psychometric properties

While the focus of the outcome of the test will be whether a pupil has achieved the expected standard, the test must measure pupils' ability across the spectrum of attainment. As a result, the test must aim to minimise the standard error of measurement at every point on the reporting scale, particularly around the expected standard threshold.

The provision of a scaled score will aid in the interpretation of pupils' performance over time as the scaled score that represents the expected standard will be the same year-on-year. However, at the extremes of the scaled score distribution, as is standard practice, the scores will be truncated such that above or below a certain point all pupils will be awarded the same scaled score to minimise the effect for pupils at the ends of the distribution, where the test is not measuring optimally.

6.7 Performance descriptor

This performance descriptor describes the typical characteristics of pupils whose performance in the key stage 1 test is at the threshold of the expected standard. Pupils who achieve the expected standard in the tests have demonstrated sufficient knowledge to be well-placed to succeed in the next phase of their education, having studied the full key stage 1 programme of study in English. This performance descriptor will be used by panels of teachers to set the standards on the new tests following their first administration in May 2016. It is not intended to be used to support teacher assessment, since it reflects only the elements of the programme of study that can be assessed in a written test (see content domain in section 4).

6.7.1 Overview

Pupils working at the expected standard will be able to engage with all questions within the test. However, they will not always achieve full marks on each question, particularly if working at the threshold of the expected standard.

Questions will range from those requiring only simple retrieval in concrete tasks with little or no inference to those requiring some inference in more abstract tasks. There will be a variety of question formats including selected response, short answer and extended answer, which require fully structured, organised and accurately communicated responses.

Question difficulty will be affected by the strands of the cognitive domain such as the accessibility and complexity of the target information within the reading text and the complexity of the technical language or other vocabulary in the question. This should be borne in mind when considering the remainder of this performance descriptor, since pupils working at the threshold of the expected standard may not give correct responses to questions where target information is not strongly located in the question or has a high level of abstractness and lexico-grammatical density, or where there is significant competing information in the text that functions as a distractor. This will be true even when the performance descriptor determines that a skill should be within the pupil's capacity if working at the expected standard.

The following sections describe the typical characteristics of pupils in Year 2 working at the threshold of the expected standard. It is recognised that different pupils will exhibit different strengths, so this is intended as a general guide rather than a prescriptive list.

Pupils working at the expected standard are able to:

- identify the meaning of vocabulary in context (1a)
- retrieve and explain relevant details from fiction and non-fiction to demonstrate understanding of character, events and information (1b)
- identify sequences of events in a range of straightforward texts (1c)
- make simple and general inferences based on the text (1d)
- make simple and general predictions based on the text (1e)

7. Diversity and inclusion

The Equality Act 2010 sets out the principles by which national curriculum assessments and associated development activities are conducted. During the development of the tests, STA's test development division will make provision to overcome barriers to fair assessment for individuals and groups wherever possible.

National curriculum assessments will also meet Ofqual's core regulatory criteria. One of the criteria refers to the need for assessment procedures to minimise bias: 'The assessment should minimise bias, differentiating only on the basis of each learner's ability to meet national curriculum requirements' (Regulatory framework for national assessment, published by Ofqual 2011).

The end of key stage 1 English reading test should:

- use appropriate means to allow all pupils to demonstrate their reading ability
- provide a suitable challenge for all pupils and give every pupil the opportunity to achieve as high a standard as possible
- provide opportunities for all pupils to achieve, irrespective of gender, disability or special educational need, social, linguistic or cultural backgrounds
- use materials that are familiar to pupils and for which they are adequately prepared
- not be detrimental to pupils' self-esteem or confidence
- be free from stereotyping and discrimination in any form

The test development process uses the principles of universal design, as described in the 'Guidance on the principles of language accessibility in national curriculum assessments' (New language accessibility guidance, published by Ofqual 2012).

In order to improve general accessibility for all pupils, where possible, questions will be placed in order of difficulty. As with all national curriculum tests, attempts have been made to make the question rubric as accessible as possible for all pupils, including those who experience reading and processing difficulties and those for whom English is an additional language, while maintaining an appropriate level of demand to adequately assess the content. This includes applying the principles of plain English and universal design wherever possible, conducting interviews with pupils and taking into account feedback from expert reviewers.

For each test in development, expert opinions on specific questions are gathered, for example, at inclusion panel meetings, which are attended by experts and practitioners from across the fields of disabilities and special educational needs. This provides an opportunity for some questions to be amended or removed in response to concerns raised.

Issues likely to be encountered by pupils with specific learning difficulties have been considered in detail. Where possible, features of questions that lead to construct irrelevant variance (for example, question formats and presentational features) have been considered and questions have been presented in line with best practice for dyslexia and other specific learning difficulties.

7.1 Access arrangements

The full range of access arrangements applicable to key stage 1 assessments as set out in the ARA will be available to eligible pupils as required.

Teachers are able to vary the administration arrangements for pupils according to their need. Where arrangements are varied, it should follow normal classroom practice for assessments of this type.

7.2 Pupils with English as an additional language (EAL)

Pupils with English as an additional language should be registered for the national curriculum tests. If a pupil's limited ability to communicate in English means that he or she is unable to access the test, then they will be working below the standard of the English tests and should not take them, as set out in the relevant ARA.

Appendix: Glossary of terminology used in the test framework

cognitive domain	Cognitive processes refer to the thinking skills and intellectual processes that occur in response to a stimulus. The cognitive domain makes explicit the thinking skills associated with an assessment. The cognitive domain, as shown in this framework, also identifies other factors that may influence the difficulty of the questions.
component	A section of a test, presented to pupils as a test paper or test booklet is called a component. Some tests may have two or more components that each pupil needs to sit to complete the test.
construct irrelevant variance	Construct irrelevant variance is the variation in pupils' test scores that does not come from their knowledge of the content domain. It can result in pupils gaining fewer marks than their knowledge would suggest or lead to the award of more marks than their knowledge alone would deserve. The former can occur, for example, when questions in a mathematics test also unintentionally measure reading ability. The latter often occurs when unintended clues within questions allow pupils to answer correctly without having the required subject knowledge.
content domain	The body of subject knowledge to be assessed by the test
distribution	The range of possible scaled scores
domain	The codified definition of a body of skills and knowledge
mark scheme	The document explaining the creditworthy responses or the criteria that must be applied to award the mark for a question in the test
national curriculum programme of study	The national curriculum programme of study is the statutory description of subject knowledge, skills and understanding for a given key stage. The key stage 1 and 2 programmes of study are published online at: https://www.gov.uk/government/publications/national-curriculum-in-england-primary-curriculum
performance descriptor	A performance descriptor is a description of the typical characteristics of pupils working at a particular standard. For these tests, the performance descriptor will characterise the minimum performance required to be working at the appropriate standard for the end of the key stage.

raw score	A raw score is the unmodified score achieved on a test, following marking. In the case of these tests it is the total marks achieved. For example, if a pupil scores 27 out of 60 possible marks, the raw score is 27. Raw scores are often then converted to other measures such as percentile ranks, standardised scores or grades.
scaled score	A score which has been translated from a raw score into a score on a fixed, defined scale is a scaled score. This allows performance to be reported on a consistent scale for all pupils, which retains the same meaning from one year to the next. Therefore, a particular scaled score reflects the same level of attainment in one year as in the previous year, having been adjusted for any differences in difficulty of the specific tests.
standard	The required level of attainment in order to be classified into a particular performance category
standard error of measurement	The standard error of measurement is a reliability estimate that allows the user to determine a confidence interval around a test score. It is a measure of the distribution of scores that would be attained by a pupil had that pupil taken the test repeatedly under the same conditions.
standard setting	The process of applying the standard to a particular test to determine the score required for a pupil to be classified within a particular performance category
test framework	A document that sets out the principles, rationale and key information about the test, and containing a test specification
test specification	A detailed description of what is to be included in a test in any single cycle of development
truncate	To shorten by removing ends

References

Independent review of key stage 2 testing, assessment and accountability (2011), Lord Bew. www.gov.uk/government/collections/key-stage-2-ks2-testing-review

Lumley, Tom; Routitsky, Alla; Mendelovits, Juliette; and Ramalingam, Dara, 'The revised PISA reading item difficulty scheme', (2012). http://research.acer.edu.au/pisa/5

Standards & Testing Agency

About this publication

Who is it for?

This document is primarily aimed at those responsible for developing the key stage 1 national curriculum test in English reading. It may also be of interest to schools with pupils in key stage 1 and other education professionals.

What does it cover?

Detailed information to ensure an appropriate test is developed, including the:

- content domain
- cognitive domain
- test specification
- test performance descriptors

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Key stage 1

Mathematics test framework

National curriculum tests from 2016

For test developers

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Key stage 1 mathematics test framework: national curriculum tests from 2016
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This document is available for download on the GOV.UK website at www.gov.uk/sta.

Contents

1. Overview

This test framework is based on the national curriculum programme of study (2014) for mathematics, introduced for teaching in schools from September 2014 and first assessed in the summer term 2016. The framework specifies the purpose, format, content and cognitive domain of the key stage 1 mathematics tests; it is not designed to be used to guide teaching and learning or to inform statutory teacher assessment.

This document has been produced to aid the test development process.

1.1 Purposes of statutory assessment

The main purpose of statutory assessment is to ascertain what pupils have achieved in relation to the attainment targets outlined in the national curriculum (2014) in mathematics.

The main intended uses of the outcomes as set out in the Bew Report and the Government's consultation document on primary assessment and accountability are to:

- hold schools accountable for the attainment and progress made by their pupils
- inform parents and schools about the performance of individual pupils
- enable benchmarking between schools, as well as monitoring performance locally and nationally.

2. What is a test framework?

The purpose of the test framework is to provide the documentation to guide the development of the tests. The framework is written primarily for those who write test materials and to guide subsequent development and test construction. It is being made available to a wider audience for reasons of openness and transparency.

Some elements of the statutory curriculum are not possible to assess using the current form of testing; they will need to be assessed by teachers as part of their statutory assessment of the complete national curriculum.

The framework includes those parts of the programme of study as outlined in the national curriculum (2014) that will be covered in the test (the content domain). The cognitive processes associated with the measurement of mathematics are also detailed in the cognitive domain.

The test framework also includes a test specification from which valid, reliable and comparable tests can be constructed each year. This includes specifics about test format, question types, response types, marking and a clear test-level reporting strategy.

By providing all of this information in a single document, the test framework answers questions about what the test will cover, and how, in a clear and concise manner. The framework does not provide information on how teachers should teach the national curriculum.

The test development process used by the Standards and Testing Agency (STA) embeds within it the generation of validity and reliability evidence through expert review and trialling. Given that the key stage 1 tests will be internally marked by teachers, an additional study to consider the reliability of marking will be undertaken as part of the 'technical pre-test' trial in the first year. The test framework does not provide detail of the validity and reliability of individual tests; this will be provided in the test handbook, which will be published on the DfE's website following the administration of the test.

The test framework should be used in conjunction with the national curriculum (2014) and the annual 'Assessment and reporting arrangements' (ARA) document.

3. Nature of the test

The key stage 1 mathematics test forms part of the statutory assessment arrangements for pupils at the end of key stage 1.

The test is based on the national curriculum statutory programme of study (2014) for mathematics at key stage 1. The mathematics test will cover the aspects of the curriculum that lend themselves to paper-based testing.

The key stage 1 mathematics test will be marked by teachers.

3.1 Population to be assessed

All eligible pupils who are registered at maintained schools, special schools or academies (including free schools) in England and are at the end of key stage 1 will be required to take the key stage 1 mathematics test, unless they have taken it in the past.

Some pupils are exempt from the tests. Further details are in the ARA, which can be found on the GOV.UK website at www.gov.uk/sta.

3.2 Test format

The mathematics test comprises two components, which are presented to pupils as two separate test papers. The first paper is an arithmetic paper. The second paper presents a range of mathematical reasoning and problem-solving questions. The test is administered on paper.

The tests are designed to enable pupils to demonstrate their attainment and as a result are not strictly timed, since the ability to work at pace is not part of the assessment. However, elements within the curriculum state that pupils should be able to use quick recall of mathematical facts and the arithmetic paper is designed to assess some of these elements. Guidance will be provided to schools to ensure that pupils are given sufficient time to demonstrate what they understand, know and can do without prolonging the test inappropriately. Table 1 opposite provides an indication of suggested timings for each component. The total testing time is approximately 55 minutes. If teachers or administrators change the time significantly, the test outcomes will be less reliable.

Table 1: Format of the test

Component	Description	Number of papers	Number of marks	Approximate timing of paper
Paper 1: arithmetic	assesses pupils' confidence and mathematical fluency with whole numbers, place-value and counting	1	25	20 minutes
Paper 2: mathematical reasoning	mathematical fluency, solving mathematical problems and mathematical reasoning	1	35	35 minutes
	Total	**2**	**60**	**Recommended 55 minutes**

3.3 Resource list

The resource list for the test is:

- **Paper 1: arithmetic** – a pencil; ruler; rubber (optional)
- **Paper 2: mathematical reasoning** – a pencil; a sharp, dark pencil for mathematical drawing; ruler (showing centimetres and millimetres); mirror; rubber (optional).

Pupils will not be permitted to use a calculator, tracing paper, number apparatus or other supporting equipment in either of the components.

4. Content domain

The content domain sets out the relevant elements from the national curriculum programme of study (2014) for mathematics at key stage 1 that are assessed in the mathematics test. The tests will, over time, sample from each area of the content domain.

The content domain also identifies elements of the programme of study that cannot be assessed in the key stage 1 tests (section 4.3). Attainment in these elements will be monitored through teacher assessment.

Tables 2 and 3 detail content from the national curriculum (2014). Elements from the curriculum are ordered to show progression across the years. The curriculum has been grouped into subdomains and these are detailed in the 'strand' column.

The numbering in Table 2 is not sequential because content that relates to key stage 2 has been removed from it.

4.1 Content domain referencing system

A referencing system is used in the content domain to indicate the year, the strand and the substrand, for example '1N1' equates to:

- year – 1
- strand – Number and place value
- substrand – 1

Table 2 shows the references for the strands and substrand, and Table 3 shows the progression across the years.

Table 2: Content domain strands and substrands

Strand	Substrand	Content domain reference
Number and place value	counting (in multiples)	**N1**
	read, write, order and compare numbers	**N2**
	identify, represent and rounding	**N4**
	number problems	**N6**

Strand	Substrand	Content domain reference
Addition, subtraction, multiplication and division (calculations)	add / subtract mentally	**C1**
	add / subtract using written methods	**C2**
	use inverses and check	**C3**
	add / subtract to solve problems	**C4**
	multiply / divide mentally	**C6**
	multiply / divide using written methods	**C7**
	solve problems based on all four operations and knowledge of the commutative facts	**C8**
	order of operations	**C9**
Fractions	recognise, find, write, name and count fractions	**F1**
	equivalent fractions	**F2**
Measurement	compare, describe and order measures	**M1**
	measure and read scales	**M2**
	money	**M3**
	telling time, ordering time and units of time	**M4**
	solve mathematical problems involving measures	**M9**
Geometry – properties of shape	recognise and name common shapes	**G1**
	describe properties and classify shapes	**G2**
	draw and make shapes and relate 2-D to 3-D shapes	**G3**
Geometry – position and direction	patterns	**P1**
	describe position, direction and movement	**P2**
Statistics	interpret and represent data	**S1**
	solve problems involving data	**S2**

4.2 Content domain for key stage 1 mathematics

Table 3: Content domain

Strand	Content domain reference Year 1		Content domain reference Year 2	
Number and place value	**1N1a**	count to and across 100, forward and backwards, beginning with 0 or 1, or from any given number	**2N1**	count in steps of 2, 3 and 5, from 0, and in tens from any number, forward or backward
	1N1b	count in multiples of twos, fives and tens		
	1N2a	count, read and write numbers to 100 in numerals	**2N2a**	read and write numbers to at least 100 in numerals and in words
	1N2b	given a number, identify one more and one less	**2N2b**	compare and order numbers from 0 up to 100; use <, > and = signs
	1N2c	read and write numbers from 1 to 20 in numerals and words		
			2N3	recognise the place value of each digit in a two-digit number (tens and ones)
	1N4	identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most and least	**2N4**	identify, represent and estimate numbers using different representations, including the number line
			2N6	use place value and number facts to solve problems

Strand	Content domain reference Year 1		Content domain reference Year 2	
Addition, subtraction, multiplication and division (calculations)	**1C1**	represent and use number bonds and related subtraction facts within 20	**2C1**	recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100
	1C2a	add and subtract one-digit and two-digit numbers to 20, including zero	**2C2a**	add and subtract numbers mentally, including: • a two-digit number and ones • a two-digit number and tens • two two-digit numbers • adding three one-digit numbers
			2C2b	add and subtract numbers using concrete objects and pictorial representations, including: • a two-digit number and ones • a two-digit number and tens • two two-digit numbers • adding three one-digit numbers
	1C2b	read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs		
			2C3	recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems
	1C4	solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = □ – 9	**2C4**	solve problems with addition and subtraction: • using concrete objects and pictorial representations, including those involving numbers, quantities and measures • applying their increasing knowledge of mental and written methods

Strand	Content domain reference Year 1		Content domain reference Year 2	
Addition, subtraction, multiplication and division (calculations) (continued)			**2C6**	recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers
			2C7	calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs
	1C8	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	**2C8**	solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts
			2C9a	show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot
			2C9b	show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot
Fractions	**1F1a**	recognise, find and name a half as one of two equal parts of an object, shape or quantity	**2F1a**	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
	1F1b	recognise, find and name a quarter as one of four equal parts of an object, shape or quantity	**2F1b**	write simple fractions [e.g. $\frac{1}{2}$ of 6 = 3]
			2F2	recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$

Strand	Content domain reference Year 1		Content domain reference Year 2	
Measurement	**1M1**	compare, describe and solve practical problems for: • lengths and heights [e.g. long / short, longer / shorter, tall / short, double / half] • mass / weight [e.g. heavy / light, heavier than, lighter than] • capacity and volume [e.g. full / empty, more than, less than, half, half full, quarter] • time [e.g. quicker, slower, earlier, later]	**2M1**	compare and order lengths, mass, volume / capacity and record the results using >, < and =
	1M2	measure and begin to record the following: • lengths and heights • mass / weight • capacity and volume • time (hours, minutes, seconds)	**2M2**	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
	1M3	recognise and know the value of different denominations of coins and notes	**2M3a**	recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value
			2M3b	find different combinations of coins that equal the same amounts of money
	1M4a	tell the time to the hour and half past the hour and draw the hands on a clock face to show these times	**2M4a**	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
	1M4b	sequence events in chronological order using language [e.g. before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]	**2M4b**	compare and sequence intervals of time
	1M4c	recognise and use language relating to dates, including days of the week, weeks, months and years	**2M4c**	know the number of minutes in an hour and the number of hours in a day
			2M9	solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change

Strand	Content domain reference Year 1		Content domain reference Year 2	
Geometry – properties of shapes	**1G1a**	recognise and name common 2-D shapes [e.g. rectangles (including squares), circles and triangles]	**2G1a**	compare and sort common 2-D shapes and everyday objects
	1G1b	recognise and name common 3-D shapes [e.g. cuboids (including cubes), pyramids and spheres]	**2G1b**	compare and sort common 3-D shapes and everyday objects
			2G2a	identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line
			2G2b	identify and describe the properties of 3-D shapes including the number of edges, vertices and faces
			2G3	identify 2-D shapes on the surface of 3-D shapes, [e.g. a circle on a cylinder and a triangle on a pyramid]
Geometry – position and direction			**2P1**	order and arrange combinations of mathematical objects in patterns and sequences
	1P2	describe position, directions and movement, including half, quarter and three-quarter turns	**2P2**	use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise)
Statistics			**2S1**	interpret and construct simple pictograms, tally charts, block diagrams and simple tables
			2S2a	ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity
			2S2b	ask and answer questions about totalling and comparing categorical data

4.3 Elements of the national curriculum that cannot be assessed fully

The table below identifies areas that are difficult to fully assess in a paper-based format. Some of the points below may be partially assessed.

Table 4: Elements of the curriculum that cannot be assessed fully

Content domain reference	Explanation
1C8 – with the support of the teacher	The 'with the support of the teacher' element applies only to classroom assessment.
2C1 – recall and use addition and subtraction facts to 20 fluently **2C2a** – add and subtract numbers mentally **2C4** – solve problems with addition and subtraction: applying their increasing knowledge of mental methods **2C8** – solve problems involving multiplication and division, using mental methods	Mental mathematics skills cannot be directly assessed in a paper-based test since you can only mark what the pupil records. For questions where only the answer is recorded, it is not possible to know the method that the pupil used or how quickly he or she completed the question. Pupils who are fluent with numbers will be able to use their mental arithmetic skills to find efficient strategies for completing calculations under test conditions. Therefore, good mental arithmetic skills will enable pupils to recall and apply number knowledge rapidly and accurately.
2C2b – using concrete objects	The 'using concrete objects' element applies only to classroom assessment.
2S2a and **2S2b** – asking questions	The 'ask questions' element is more suited to classroom assessment.

5. Cognitive domain

The cognitive domain seeks to make the thinking skills and intellectual processes required for the key stage 1 mathematics test explicit. Each question will be rated against the four strands of the cognitive domain listed in sections 5.1 to 5.4 below to provide an indication of the cognitive demand.

The cognitive domain will be used during test development to ensure comparability of demand as well as difficulty for tests in successive years. The national curriculum (2014) aims of solving mathematical problems, fluency and mathematical reasoning are reflected within the cognitive domain.

5.1 Depth of understanding

This strand is used to assess the demand associated with recalling facts and using procedures to solve problems.

Questions requiring less depth of understanding require simple procedural knowledge, such as the quick and accurate recall of mathematical facts or the application of a single procedure to solve a problem.

At intermediate levels of demand, a question may require the interpretation of a problem or the application of facts or procedures. However, the component parts of these questions are simple and the links between the parts and processes are clear.

At a high level of demand, a greater depth of understanding is expected. Questions may require that facts and procedures will need to be used flexibly and creatively to find a solution to the problem.

Table 5: Depth of understanding

Strand	Rating scale			
	(low) 1	2	3	4 (high)
Depth of understanding	recall of facts	application of learned facts and procedures	use facts to solve simple problems	understand and use facts and procedures to solve more complex problems

5.2 Computational complexity

This strand is used to assess the computational demand of questions.

In questions with low complexity, there will be no numeric operation.

At an intermediate level of complexity, more than one numeric step or computation will be needed to solve the problem.

At a high level of complexity, questions will involve more than two processes or numeric operations.

Table 6: Computational complexity

Strand	Rating scale			
	(low) 1	2	3	4 (high)
Computational complexity	no numeric steps	one numeric step	more than one numeric step - all steps are simple	more than one numeric step, at least one of which is more complex

5.3 Spatial reasoning and data interpretation

This strand is used to assess the demand associated with the representation of geometrical problems involving 2-dimensional and 3-dimensional shapes, position and movement. This strand is also used to assess the demand associated with interpreting data.

There is a low level of demand when all the resources or information required to answer the question are presented within the problem (e.g. counting the number of sides of a given 2-D shape).

At intermediate levels of demand, spatial reasoning will be needed to manipulate the information presented in the question to solve the problem (e.g. find a line of symmetry on a simple shape or interpret a 2-D representation of a 3-D shape). Pupils may need to select the appropriate information in order to complete the problem (e.g. from a table, chart or graph).

At the highest level of demand, there may be the need to use complex manipulation or interpretation of the information as part of the problem.

Table 7: Spatial reasoning and data interpretation

Strand	Rating scale			
	(low) 1	2	3	4 (high)
Spatial reasoning	no spatial reasoning required	all and only the geometric information required to solve the problem is present	manipulation of the geometric information given is required to solve the problem	complex manipulation of the geometric information given is required to solve the problem
Data interpretation	no data information required	select and retrieve information	select and interpret information	interpret more complex information, or interpret more than one piece of data

5.4 Response strategy

This strand describes the demand associated with constructing a response to a question.

At a low level of demand, the strategy for solving a problem is given as part of the presentation of the problem.

At a lower intermediate level of demand, the strategy for solving a problem is clear. Very little construction is required to complete the task.

At an upper intermediate level of demand, there may be simple procedures to follow that will lead to completion of the problem.

At a high level of demand, the question will require that a simple strategy is developed (and perhaps monitored) to complete the task. The answer may need to be constructed, organised and reasoned.

Table 8: Response strategy

Strand	Rating scale			
	(low) 1	2	3	4 (high)
Response strategy	select one response	select multiple responses or single constructed response required	construct a small set of simple responses	constructs a complex response and / or shows evidence of a method

6. Test specification

This section provides details of each test component.

6.1 Summary

The test comprises two components, which will be presented to pupils as two separate papers.

Table 9: Format of the test

Component	Description	Number of papers	Number of marks	Approximate timing of paper
Paper 1: arithmetic	assesses pupils' confidence and mathematical fluency with whole numbers, place-value and counting	1	25	20 minutes
Paper 2 : mathematical reasoning	mathematical fluency, solving mathematical problems and mathematical reasoning	1	35	35 minutes
	Total	**2**	**60**	**Recommended 55 minutes**

6.2 Breadth and emphasis

The content and cognitive domains for the mathematics tests are specified in sections 4 and 5. The test will sample from the content domain in any given year. Although every element may not be included within each test, the full range of assessable content detailed in this document will be assessed over time. The questions in each test will be placed in an approximate order of difficulty.

The following sections show the proportion of marks attributed to each of the areas of the content and cognitive domains in a test.

6.2.1 Profile of content domain

Each of the seven strands listed in Table 10 will be tested on a yearly basis and these will be present in the tests in the proportions shown.

Table 10 shows the distribution of marks across the content domain.

Table 11 shows the distribution of marks across the components of the test and by national curriculum element.

Table 10: Profile of content domain

Content area	Number of marks	Percentage of marks
Number Number and place value (N) Addition, subtraction, multiplication, division (calculations) (C) Fractions (F)	48–54	80–90%
Measurement, geometry and statistics Measurement (M) Geometry – properties of shapes (G) Geometry – position and direction (P) Statistics (S)	6–12	10–20%

Table 11: Profile of marks by paper and curriculum element

Component	Number	Measurement, geometry and statistics	Total marks
Paper 1: arithmetic	25	0	**25**
Paper 2: mathematical reasoning	23–29	6–12	**35**
			60

6.2.2 Profile of cognitive domain

The cognitive domain is specified in section 5. The allocation of marks across each strand and demand rating is detailed in Table 12.

Table 12: Profile of marks by cognitive domain strand

Cognitive domain strand	(low) 1	2–3	4 (high)	Total marks
Depth of understanding	0–20	30–60	0–10	**60**
Computational complexity	10–20	30–50	0–10	**60**
Spatial reasoning and data interpretation	45–55	0–15	0–5	**60**
Response strategy	0–10	40–60	0–10	**60**

6.3 Format of questions and responses

6.3.1 Paper 1

Paper 1 (arithmetic) will be comprised of constructed response questions, presented as context-free calculations. The arithmetic questions will each be worth one mark.

6.3.2 Paper 2

For Paper 2, mathematical reasoning problems are presented in a wide range of formats to ensure pupils can fully demonstrate mathematical fluency, mathematical problem solving and mathematical reasoning. There will be six aural questions at the start: one practice question and five test questions. These questions will help the pupils settle into the test; they will be placed in approximate order of difficulty. All questions may be read aloud, so that reading ability does not impair a pupil's ability to demonstrate his or her mathematical attainment.

Paper 2 will include both selected response and constructed response questions.

Selected response questions, where pupils are required to select which option satisfies the constraint given in the question, will include question types such as:

- multiple choice, where pupils are required to select their response from the options given
- matching, where pupils are expected to indicate which options match correctly
- true / false or yes / no questions, where pupils are expected to choose one response for each statement.

Constructed response questions, where pupils are required to construct an answer rather than simply select one or more options, will include the following:

- constrained questions, where pupils are required to provide a single or best answer; these might involve giving the answer to a calculation, completing a chart or table, or drawing a shape (for questions worth more than one mark, partial credit will be available)
- less constrained questions, where pupils are required to communicate their approach to solving a problem.

Questions in Paper 2 will comprise items presented in context and out of context.

6.4 Marking and mark schemes

The key stage 1 tests will be marked internally by teachers.

The mark schemes will give specific guidance for the marking of each question, together with general principles to ensure consistency of marking.

The mark schemes will provide the total number of marks available for each question and the criteria by which teachers should award the marks to pupils' responses. Where multiple correct answers are possible, examples of different types of correct answer will be given in the mark schemes. Where applicable, additional guidance will indicate minimally acceptable and unacceptable responses. The mark schemes will provide a content domain

reference, so it is possible to determine what is assessed in each question.

For all questions, the mark schemes will be developed during the test development process and will combine the expectations of experts with examples of pupils' responses obtained during trialling.

For two-mark questions, where the correct answer has not been obtained, the mark scheme will indicate how marks can be awarded for correctly following a process or processes through the problem.

Within the mark schemes, examples of responses will be developed for 'method' questions. This is because the questions are open, leading to pupils giving a wide range of responses that are very close to the border between creditworthy or non-creditworthy. The additional examples help to improve marking reliability by providing examples of responses that fall just either side of the border of what is creditworthy or non-creditworthy.

There will be a system of sampling and moderation of marking organised by STA to ensure consistency between schools. Full details will be available in the ARA.

6.5 Reporting

The raw score on the test (the total marks achieved out of the 60 marks available) will be converted into a scaled score using a conversion table. Translating raw scores into scaled scores ensures performance can be reported on a consistent scale for all pupils. Scaled scores retain the same meaning from one year to the next. Therefore, a particular scaled score reflects the same standard of attainment in one year as in the previous year, having been adjusted for any differences in difficulty of the test.

Additionally, each pupil will receive an overall result indicating whether or not he or she has achieved the required standard on the test. A standard-setting exercise will be conducted on the first live test in 2016 to determine the scaled score needed for a pupil to be considered to have met the standard. This process will be facilitated by the performance descriptor in section 6.7, which defines the performance level required to meet the standard. In subsequent years, the standard will be maintained using appropriate statistical methods to translate raw scores on a new test into scaled scores with an additional judgemental exercise at the expected standard. The scaled score required to achieve the expected standard on the test will remain the same.

6.6 Desired psychometric properties

While the focus of the outcome of the test will be whether a pupil has achieved the expected standard, the test must measure pupils' ability across the spectrum of attainment. As a result, the test must aim to minimise the standard error of measurement at every point on the reporting scale, particularly around the expected standard threshold.

The provision of a scaled score will aid in the interpretation of pupils' performance over time, as the scaled score that represents the expected standard will be the same year-on-year. However, at the extremes of the scaled score distribution, as is standard practice, the scores will be truncated such that above or below a certain point all pupils will be awarded the same scaled score to minimise the effect for pupils at the ends of the distribution, where the test is not measuring optimally.

6.7 Performance descriptor

This performance descriptor describes the typical characteristics of pupils whose performance in the key stage 1 test is at the threshold of the expected standard. Pupils who achieve the expected standard in the tests have demonstrated sufficient knowledge to be well-placed to succeed in the next phase of their education, having studied the full key stage 1 programme of study in mathematics. This performance descriptor will be used by panels of teachers to set the standards on the new tests following their first administration in May 2016. It is not intended to be used to support teacher assessment, since it reflects only the elements of the programme of study that can be assessed in a written test (see content domain in section 4).

6.7.1 Overview

Pupils working at the expected standard will be able to engage with all questions within the test. However, they will not always achieve full marks on each question, particularly if working at the threshold of the expected standard.

Questions will range from those requiring recall of facts or application of learned procedures to those requiring understanding of how to use facts and procedures creatively to decide how to solve more complex and unfamiliar problems. There will be a variety of question formats including selected response, short answer and more complex calculations involving a small number of steps.

Question difficulty will be affected by the strands of the cognitive domain such as computational complexity and spatial reasoning and data interpretation. This should be borne in mind when considering the remainder of this performance descriptor, since pupils working at the threshold of the expected standard may not give correct responses to all questions. In cases where there are multiple interrelated computational steps and/or a need to infer new information or to visualise or represent a more abstract problem, some pupils may find the question difficult to understand in a test setting. This will be true even when the performance descriptor determines that a skill should be within the pupil's capacity if working at the expected standard.

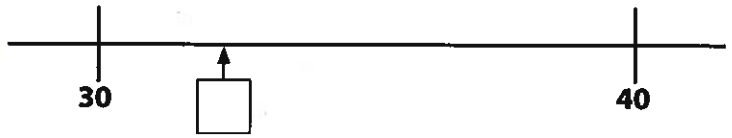
The following sections describe the typical characteristics of pupils in Year 2 working at the threshold of the expected standard. It is recognised that different pupils will exhibit different strengths, so this is intended as a general guide rather than a prescriptive list. References in [square brackets] refer to aspects of the content domain specified in section 4.

6.7.2 Number

Pupils working at the expected standard are able to:

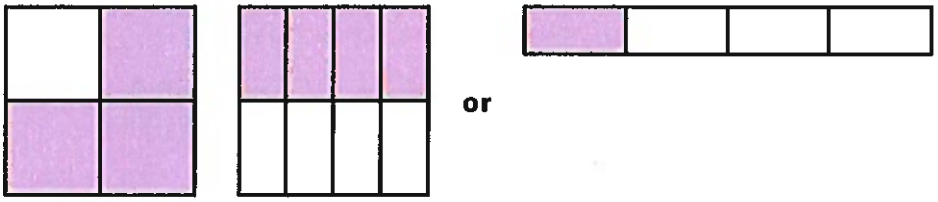
- count in multiples of 2, 5 and 10, to 100, forwards and backwards [N1]
- count forwards in multiples of 3 to 30 [N1]

- count in steps of 10, to 100, forward and backward (e.g. 97, 87, 77, 67, ...) [N1]
- read and write numbers to at least 100 in numerals, and make recognisable attempts to write numbers to 100 in words [N2]
- use place value in whole numbers up to 100 to compare and order numbers, using less than (<), equals (=) and greater than (>) signs correctly [N2]
- identify, represent and estimate numbers within a structured environment (e.g. estimate 33 on a number line labelled in multiples of ten) [N4]



- use place value and number facts to solve problems (e.g. 60 – ☐ = 20) [N6]
- use addition and subtraction facts [C1]
- add and subtract numbers using pictorial representations, including:
  - a two-digit number and ones (e.g. 65 + 8, 79 – 6)
  - a two-digit number and tens (e.g. 62 + 30, 74 – 20)
  - two two-digit numbers (e.g. 36 + 41, 56 – 22)
  - three one-digit numbers (e.g. 9 + 6 + 8) [C2]
- use inverse operations to solve missing number problems for addition and subtraction (e.g. given 9 + 5 = 14, complete 14 – ☐ = 9 and ☐ – 9 = ☐) [C3]
- solve simple 2-step problems with addition and subtraction (e.g. Ben has 5 red marbles and 6 blue marbles. He gives 7 of his marbles to a friend. How many marbles does he have left?) [C4]
- recall and use multiplication and division facts for the 10 multiplication table using the appropriate signs (×, ÷ and =) (e.g. 80 ÷ 10 = ☐) [C6, C7]
- recall and use multiplication facts for the 2 and 5 multiplication tables and begin to recall and use division facts for the 2 and 5 multiplication tables using appropriate signs (×, ÷ and =) (e.g. 2 × ☐ = 16, 5 × 6 = ☐) [C6, C7]
- recognise odd and even numbers [C6]
- solve problems involving multiplication and division (e.g. Ben shares 15 grapes between 3 friends; how many grapes do they each receive?) [C8]
- know that addition and multiplication of two small numbers can be done in any order (commutative) and subtraction of one number from another cannot (e.g. 5 × 6 = 6 × 5, but 19 – 12 is not equal to 12 – 19) [C9]
- recognise and find half of a set of objects or a quantity (e.g. find $\frac{1}{2}$ of 18 pencils) and begin to find $\frac{1}{3}$ or $\frac{1}{4}$ or $\frac{3}{4}$ of a small set of objects (e.g. find $\frac{1}{3}$ of nine pencils) [F1]

- recognise, find and name fractions $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a shape (e.g. shade $\frac{1}{4}$ or $\frac{3}{4}$ of a square split into 4 equal rectangles, or shade $\frac{1}{2}$ of a symmetrical shape split into 8 equal parts [F1]



- recognise the equivalence of two quarters and one half in practical contexts [F2].

6.7.3 Measurement

Pupils working at the expected standards are able to:

- compare and order lengths, mass, volume / capacity (e.g. 30 cm is longer than 20 cm [M1]
- choose and use appropriate standard units to measure length / height in any direction (m / cm); mass (kg / g); temperature (°C); capacity (litres / ml) to the nearest appropriate unit (e.g. the bucket contains 4 litres of water, scale marked every litre and labelled at 5 litres) using rulers, scales, thermometers and measuring vessels and begin to make good estimates (e.g. the book is about 20 cm long) [M2]
- recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value and find different combinations of coins to equal the same amounts of money (e.g. find two different ways to make 48p) [M3]
- recognise, tell and write the times: o'clock, half past and quarter past and quarter to the hour; draw hands on a clock face to show half past and o'clock times [M4]
- begin to tell and write the time to five minutes, including quarter past / to the hour and draw hands on a clock face to show these times [M4]
- solve problems in a practical context involving addition and subtraction of money of the same unit, including giving change (e.g. Mrs Smith buys a cake for 12p and a biscuit for 5p; how much change does she get from 20p?) [M9].

6.7.4 Geometry

Pupils working at the expected standards are able to:

- compare and sort common 2-D shapes (e.g. semi-circle, rectangle and regular polygons such as pentagon, hexagon and octagon) and everyday objects, identifying and describing their properties (e.g. the number of sides or vertices, and recognise symmetry in a vertical line) [G1, G2]
- compare and sort common 3-D shapes (e.g. cone, cylinder, triangular prism, pyramid) and everyday objects, identifying and describing their properties (e.g. flat / curved surfaces, and beginning to count number of faces and vertices correctly) [G1, G2]

- identify 2-D shapes on the surface of 3-D shapes and images of them (e.g. a circle on a cylinder and a triangle on a pyramid) [G3]
- order and arrange combinations of mathematical objects in patterns (e.g. continue a repeating pattern such as ) [P1]
- use mathematical vocabulary to describe position, direction (e.g. left and right) and movement including movement in a straight line and distinguish between rotation as a turn, and in terms of right angles for quarter and half turns [P2].

6.7.5 Statistics

Pupils working at the expected standards are able to:

- interpret simple pictograms (where the symbols show one-to-one correspondence), tally charts, block diagrams (where the scale is divided into ones, even if only labelled in multiples of two) and simple tables [S1]
- answer questions by counting the number of objects in each category and sorting the categories by quantity [S2]
- answer questions about totalling and begin to compare simple categorical data (e.g. when the pictures or blocks are adjacent) [S2].

6.7.6 Solve problems and reason mathematically

Pupils working at the expected standards are able to:

- solve problems by applying their mathematics in a range of contexts (including money and measures, geometry and statistics) using the content described above; use and interpret mathematical symbols and diagrams; and begin to communicate their reasoning; for example:
  - use place value and number facts to solve problems (e.g. 40 + ☐ = 70) [N6,C1]
  - use inverse operations to solve missing number problems for addition and subtraction (e.g. There were some people on a bus, six got off leaving seventeen people on the bus. How many were on the bus to start with?) [C3]
  - solve simple 2-step problems with addition and subtraction, which require some retrieval (e.g. There are 12 kittens in a basket, 6 jump out and only 2 jump back in; how many are in the basket now?) [C4]
  - solve simple problems involving multiplication and division (e.g. Ahmed buys 3 packs of apples. There are 4 apples in each pack. How many apples does he buy?) [C8]
  - solve problems with one or two computational steps using addition, subtraction, multiplication and division and a combination of these (e.g. Joe has 2 packs of 6 stickers; Mina gives him 2 more stickers; how many stickers does he have altogether?) [C4, C8]
  - solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change (e.g. Identify three coins with a total value of 24p or find the two items which cost exactly £1 altogether from a list such as: 70p, 40p, 50p and 30p) [M3, M9].

7. Diversity and inclusion

The Equality Act 2010 sets out the principles by which national curriculum assessments and associated development activities are conducted. During the development of the tests, STA's test development division will make provision to overcome barriers to fair assessment for individuals and groups wherever possible.

National curriculum assessments will also meet Ofqual's core regulatory criteria. One of the criteria refers to the need for assessment procedures to minimise bias: 'The assessment should minimise bias, differentiating only on the basis of each learner's ability to meet national curriculum requirements' (Regulatory framework for national assessment, published by Ofqual 2011).

The end of key stage 1 mathematics test should:

- use appropriate means to allow all pupils to demonstrate their mathematical fluency, solving problems and reasoning
- provide a suitable challenge for all pupils and give every pupil the opportunity to achieve as high a standard as possible
- provide opportunities for all pupils to achieve, irrespective of gender, disability or special educational need, social, linguistic or cultural backgrounds
- use materials that are familiar to pupils and for which they are adequately prepared
- not be detrimental to pupils' self-esteem or confidence
- be free from stereotyping and discrimination in any form.

The test development process uses the principles of universal design, as described in the 'Guidance on the principles of language accessibility in national curriculum assessments' (New language accessibility guidance, published by Ofqual 2012).

In order to improve general accessibility for all pupils, where possible, questions will be placed in order of difficulty. As with all national curriculum tests, attempts have been made to make the question rubric as accessible as possible for all pupils, including those who experience reading and processing difficulties and those for whom English is an additional language, while maintaining an appropriate level of demand to adequately assess the content. This includes applying the principles of plain English and universal design wherever possible, conducting interviews with pupils and taking into account feedback from expert reviewers.

For each test in development, expert opinions on specific questions are gathered, for example, at inclusion panel meetings, which are attended by experts and practitioners from across the fields of disabilities and special educational needs. This provides an opportunity for some questions to be amended or removed in response to concerns raised.

Issues likely to be encountered by pupils with specific learning difficulties have been considered in detail. Where possible, features of questions that lead to construct irrelevant variance (for example, question formats and presentational features) have been considered and questions have been presented in line with best practice for dyslexia and other specific learning difficulties.

7.1 Access arrangements

The full range of access arrangements applicable to key stage 1 assessments as set out in the ARA will be available to eligible pupils as required.

Teachers are able to vary the administration arrangements for pupils according to their need. Where arrangements are varied, it should follow normal classroom practice for assessments of this type.

Appendix: Glossary of terminology used in the test framework

cognitive domain	Cognitive processes refer to the thinking skills and intellectual processes that occur in response to a stimulus. The cognitive domain makes explicit the thinking skills associated with an assessment. The cognitive domain, as shown in this framework, also identifies other factors that may influence the difficulty of the questions.
component	A section of a test, presented to pupils as a test paper or test booklet is called a component. Some tests may have two or more components that each pupil needs to sit to complete the test.
construct irrelevant variance	Construct irrelevant variance is the variation in pupils' test scores that does not come from their knowledge of the content domain. It can result in pupils gaining fewer marks than their knowledge would suggest or lead to the award of more marks than their knowledge alone would deserve. The former can occur, for example, when questions in a mathematics test also unintentionally measure reading ability. The latter often occurs when unintended clues within questions allow pupils to answer correctly without having the required subject knowledge.
content domain	The body of subject knowledge to be assessed by the test
distribution	The range of possible scaled scores
domain	The codified definition of a body of skills and knowledge
mark scheme	The document explaining the creditworthy responses or the criteria that must be applied to award the mark for a question in the test
national curriculum programme of study	The national curriculum programme of study is the statutory description of subject knowledge, skills and understanding for a given key stage. The key stage 1 and 2 programmes of study are published online at: https://www.gov.uk/government/publications/national-curriculum-in-england-primary-curriculum
performance descriptor	A performance descriptor is a description of the typical characteristics of pupils working at a particular standard. For these tests, the performance descriptor will characterise the minimum performance required to be working at the appropriate standard for the end of the key stage.

raw score	A raw score is the unmodified score achieved on a test, following marking. In the case of these tests it is the total marks achieved. For example, if a pupil scores 27 out of 60 possible marks, the raw score is 27. Raw scores are often then converted to other measures such as percentile ranks, standardised scores or grades.
scaled score	A score which has been translated from a raw score into a score on a fixed, defined scale is a scaled score. This allows performance to be reported on a consistent scale for all pupils, which retains the same meaning from one year to the next. Therefore, a particular scaled score reflects the same level of attainment in one year as in the previous year, having been adjusted for any differences in difficulty of the specific tests.
standard	The required level of attainment in order to be classified into a particular performance category
standard error of measurement	The standard error of measurement is a reliability estimate that allows the user to determine a confidence interval around a test score. It is a measure of the distribution of scores that would be attained by a pupil had that pupil taken the test repeatedly under the same conditions.
standard setting	The process of applying the standard to a particular test to determine the score required for a pupil to be classified within a particular performance category
test framework	A document that sets out the principles, rationale and key information about the test, and containing a test specification
test specification	A detailed description of what is to be included in a test in any single cycle of development
truncate	To shorten by removing ends

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Standards & Testing Agency

About this publication

Who is it for?

This document is aimed primarily at those responsible for developing the key stage 1 national curriculum test in mathematics. It may also be of interest to schools with pupils in key stage 1 and other education professionals.

What does it cover?

The framework provides detailed information to ensure an appropriate test is developed, including the:

- content domain
- cognitive domain
- test specification
- test performance descriptors.

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