

# NAPLAN

2014 State report



# Preface

The purpose of the National Assessment Program is to collect information that governments, education authorities and schools can use to determine whether Australian students are reaching important educational goals. As part of that program, the Literacy and Numeracy tests are one source of information about the literacy and numeracy learning that can be used to inform educational policy and current educational practice.

The National Assessment Program — Literacy and Numeracy (NAPLAN) tests are developed using the nationally agreed *Statements of Learning for English* and *Statements of Learning for Mathematics, 2005*, referred to as the *Statements of Learning* (SoLs). These statements describe essential skills, knowledge, understandings and capabilities that all young Australians should have the opportunity to acquire by the end of Years 3, 5, 7 and 9.

The NAPLAN tests are designed to provide a nationally comparable indication of student performance in Language conventions, Writing, Reading and Numeracy. The tests are designed to assess a student's ability to demonstrate the following skills:

- **Language conventions:** The test assesses the ability of students to independently recognise and use correct Standard Australian English grammar, punctuation and spelling in written contexts.
- **Writing:** The test assesses the ability of students to convey thoughts, ideas and information through the independent construction of a written text in Standard Australian English.
- **Reading:** The test assesses the ability of students to independently make meaning from written Standard Australian English texts, including those with some visual elements.
- **Numeracy:** The test assesses students' knowledge of mathematics, their ability to independently apply that knowledge in context, and their ability to independently reason mathematically.

This document reports the performance of Queensland students in Year 5 who sat the 2014 National Assessment Program — Literacy and Numeracy (NAPLAN) tests.

## Who should use this report?

*NAPLAN: State report* will help teachers, principals and other school personnel understand, interpret and use the student performance information contained in the test reports. Class and school reports are supplied electronically on the secure section of the Queensland Curriculum and Assessment Authority (QCAA) website: <https://naplan.qcaa.qld.edu.au/naplan/pages/login.jsp>. These reports are accessible only with the school's Brief Identification Code (BIC) login and password. Individual student reports are distributed to schools as printed copies.

## Principals

Principals can use this report to help interpret their school reports and to provide information to the school community on aspects of the tests. It provides information on how to access and interpret the online reports located on the QCAA's website.

## Curriculum leaders, Heads of Department and Heads of Special Education Services

Queensland's performance in each year level on each of the Literacy and Numeracy strands is provided in this document. Curriculum leaders can use this information to interpret the class reports.

## **Classroom teachers**

Classroom teachers can use information such as the item descriptors, state and national results and the commentaries provided in this report to interpret their class reports. Teachers can compare the performance of their students on a particular item with Australian results. For example, an item with a low facility rate may not necessarily indicate a problem in teaching and learning. It may be that this was simply a difficult item for all students in this cohort across Australia. The results for such an item may provide information about the learning challenges associated with that concept but should not necessarily be cause for concern.

## **Parents/carers**

Parents can use the information in the report to interpret the results on their child's report. They are also able to judge how their child performed when compared with the whole population of students. The item descriptors provide useful information about the scope of the tests.

## **Pre-service teachers**

Pre-service teachers will find the information in the commentaries on overall student performance useful in gaining an understanding of what students know and can do in some areas of Literacy and Numeracy at Year 5.

# **Placing the tests in the assessment context**

The NAPLAN tests are national instruments designed to contribute to a school's assessment program and to inform the teaching and learning cycle. It must be remembered, however, that the results from the 2014 NAPLAN tests represent only one aspect of a school's assessment program.

The results from a school's formal and informal assessment of students should be consistent with the NAPLAN test results. Principals and teachers should keep in mind that these were pencil-and-paper, point-in-time, timed tests. If the test results are different from what was expected, consider the possible reasons. The results of the tests may indicate aspects of student performance that need further investigation within the classroom using other forms of assessment.

# **Marking and scoring the tests**

## **Marking the tests**

The tests are scored against nationally agreed marking guides. There are four guides, one for the writing task and one each for the open responses in reading, numeracy and spelling. These guides provide information on the acceptable forms of the correct answer.

For the Numeracy tests, students may provide a correct response in different forms. Professional officers review these results and decide how to score.

## **Calculating raw scores**

The simplest calculation made in scoring the tests is the raw score — the number of questions answered correctly. All of the questions for the Language conventions, Writing, Reading and Numeracy tests are marked as either correct or incorrect.

## **Constructing scale scores**

Raw scores have limited use. They enable the performance of students who have all completed

the same test at the same time to be placed in a rank order, but they do not provide information about the level of difficulty of the test nor the relative differences between students.

To achieve this, raw scores are transferred to a common scale that reflects how difficult it was to achieve each score. The scale is comparable between year levels for each assessment area. An equating process is also carried out on each year's test to enable scores to be compared between years of testing. This might mean, for example, that a raw score of 20 on the Year 3 Reading test is transformed to a scale score of 354. This will also represent the same achievement for a student with the same scale score in Year 5, and for a student with the same scale score for Reading in a previous year.

The single scale for all students in all year levels is centred on approximately 500. Scale scores also provide a basis for measuring and comparing students' abilities across years of schooling, for example comparing a student's result in Year 3 in 2012 and Year 5 in 2014.

## **Using scale scores**

The scale score can be used to compare the results of different students. Principals and teachers should take care when making comparisons between small groups of students. For groups of fewer than 10 students, any differences may not be reliable, particularly if the differences are small.

The scales can be used to monitor the growth of groups of students over time. Principals and teachers should take care to ensure that the compositions of the groups are the same. This enables the school to evaluate special programs that may have been put in place.



# Understanding the data

## Which reports?

The *NAPLAN National Summary Report* and the *NAPLAN National report* provide nationally comparable data about student performance within the National Assessment Program. These data provide states and territories with information about the achievement of their students in relation to their peers across the nation. These data are available from the ACARA website.

This *NAPLAN: State report* provides detailed information about student performance on each of the test items. It gives information about:

- the Queensland performance on each of the items
- the national performance on each item
- the item descriptors
- performance at the state level
- some recommendations for teaching.

Together, these publications provide the general system-level information and are generally available.

NAPLAN data	National report	Government systems Australian public	Analysis of systems data: <ul style="list-style-type: none"><li>• Systems planning</li><li>• Trends</li></ul>
	School report	Schools	Analysis of school data: <ul style="list-style-type: none"><li>• Range</li><li>• Comparisons of student &amp; state</li></ul>
	Class report	Teachers	Analysis of class data: <ul style="list-style-type: none"><li>• Test results by<ul style="list-style-type: none"><li>– class</li><li>– group response</li></ul></li></ul>
	Teaching, learning and assessment including planned explicit teaching and feedback based on identified learning goals.		

The *NAPLAN School Reports* give information about the performance of the year level as a whole. They provide a summary of year-level performance as well as performance by gender, language background and Indigenous status in the following fields:

- distribution of scale scores
- distribution of achievement bands
- school and state means
- participation of the group.

The shading showing the range of performance for the middle 60% of Queensland students, together with the state mean, locates a school's performance relative to that of the state.

The NAPLAN *Class Reports* show the performance of each student on every item. They show the items a student had correct, including the errors that students made in each strand with the exception of reading, where the answers are generally too long to record.

The report also gives the:

- scale scores for each student
- bands for each student
- percentage correct for each item for the class and state, and by gender.

## Using data to improve teaching and learning

While the national and state reports provide the comparative data, it is the class reports that provide a school with the information that can be used to inform teaching and learning and to build capacity in schools. Analysis of the NAPLAN class data, in particular the performance on each item, will provide teachers with information about the understandings and patterns of misunderstandings in student learning.

An analysis of the distracters presented in multiple-choice items and the answers to the constructed-response items, other than those for reading, is available through the SunLANDA data analysis tool. This is available on the QCAA website and is designed to help schools with their analyses of class and school results along with other school-based assessments.

Looking at the performance on the items and then analysing the error patterns allows teachers and principals to make hypotheses about why groups of students make particular errors. Schools can:

- compare the facility rates (percentage correct) of items to see if their performance is consistent with the national and state results available in this document
- look at the common errors made by their students and compare them with the common errors made in the state.  
(Only errors from Queensland are available. These are to be found in the item analyses that are part of SunLANDA.)
- form hypotheses about why students are making these errors
  - How did students think about this aspect of curriculum?
  - What misunderstandings might these errors represent?
  - How might the structure of the item have shaped the response?

Using a combination of the NAPLAN data, school data and professional judgment, teachers should then test these hypotheses to see whether they are valid or whether there is more to be thought about and investigated. Interpretation of these results allows teachers to make judgments about teaching approaches and curriculum.

The professional conversations that are part of this process are the most effective and powerful way to use the data as they are the vehicle for developing shared understandings.

# Writing prompt

## Change a rule or law

Rules and laws tell us what we can and cannot do. Choose a rule or law that you think needs to change.

It could be a home or school rule. It could be a rule of a game or sport. It could be a law that everyone has to follow. The change should make the rule or law better.

Write to convince a reader why this rule or law should be changed.

- **Start with an introduction.**

An introduction lets a reader know what you are going to write about.

- **Write your opinion on the topic.**

Give reasons for your opinion.  
Explain your reasons.

- **Finish with a conclusion.**

A conclusion sums up your reasons so that a reader is convinced of your opinion.

**Remember to:**

- plan your writing
- use paragraphs to organise your ideas
- write in sentences
- choose your words carefully to convince a reader of your opinion
- pay attention to your spelling and punctuation
- check and edit your writing so it is clear.

# Key messages for teachers

## About the task

All year levels were given the same prompt and the same spoken instructions. Teachers read the text on the stimulus page aloud to the students. No discussion of the task was allowed. Working independently, students had to plan, draft and edit a written response. They had 5 minutes to plan, 30 minutes to write their script and 5 minutes to edit and complete their writing. They were given a maximum of three pages on which to write their response.

This year the prompt *Change a rule or law* was constructed without supporting images that might tempt students to write a ‘tour of the stimulus’. The wording was also changed to remove the suggestion that students view the topic from both sides, although they could still use this rhetorical technique if they desired. The sequence of the topic subjects *rule*, then *law*, supported younger students, particularly Year 3 students, who may have been more likely to relate personally to rules from home or school.

The prompt gave clear guidelines about the basic structural elements of the writing: an introduction, a body and conclusion. Within this structure, there were no prescribed methods for developing these elements. The prompt also provided students with a writing checklist.

Markers were trained using the national persuasive writing training package, conducted under the auspices of the *Australian Education, Early Childhood Development, and Youth Affairs Senior Officials Committee* (AEEYSOC). Markers were recruited and trained in accordance with national protocols, applied consistently across all states and territories. Only teachers marked the NAPLAN Writing test in Queensland. All markers across Australia applied the 10 criteria and the related standards from the marking rubric. The Writing test scripts were marked electronically in all states and territories. Stringent quality-control measures were applied to marking of student scripts, including a prescribed percentage of scripts to be double-marked, and the same set of *control scripts* that must be scored by all markers across Australia. There is provision for appeal over individual Writing test scores. On appeal, a student’s script is marked independently by two senior Writing test markers. The *NAPLAN Persuasive writing marking guide* is available at [www.nap.edu.au/NAPLAN/About\\_each\\_domain/Writing/index.html](http://www.nap.edu.au/NAPLAN/About_each_domain/Writing/index.html).

## Performance

Though it may have been an unintended outcome, the 2014 Writing test topic, *Change a rule or law*, actually proved to be a very open-ended subject, with students introducing a wide range of persuasive subject matter. As expected, and as the prompt suggested, many students selected rules associated with common experiences and settings, such as schools, home life, sports etc. However, a number of students, particularly in the upper grades, interpreted ‘rules’ and ‘laws’ in somewhat abstract or unstated ways, describing various behaviours and situations that might be regarded more as convention (or desirable outcome) than rule. For instance, many older students wrote broadly on the subject of cigarette use, even though ‘laws’ currently only apply to age limits, advertising, sales restrictions and where smoking can occur. In general, these responses to the prompt were deemed acceptable. In lower grades, Year 3 in particular, students’ understandings and expression of rules and laws were treated respectfully, allowing these young students scope to write within the realm of their limited experience. Only about 1% of all students chose not to provide any response.

Students had been made aware that the 2014 task might be in either the persuasive or narrative genres, and it was reasonably expected that a number of students may respond to the prompt in a narrative form. Narrative responses were rare, however. Some students did shift to more informative approaches, often as part of a broader persuasive text. When students continued in



the informative line, without taking a stance on the subject in question, they were deemed to be 'off genre', an outcome that had considerable impact on their scores.

As a general observation, it appeared that originality in responses may have suffered as a result of over-rehearsal, or excessive exposure to persuasive models. (This was the fourth year of the persuasive genre in the NAPLAN Writing test.) Many students in the lower grades, in particular, continued to follow a generic structure based around an introduction adopting some stance:

*I strongly believe that ...*, a series of brief paragraphs with rather prosaic connectives, *Firstly ... secondly ...* etc., and a conclusion that mainly provided a summary of the text. While this pattern may have broadly met the criteria of a persuasive text type, it proved somewhat limiting in that students' natural flow with language and ideas was restricted. Better scripts, including some produced by Year 3 students, challenged and engaged the reader from the outset, used supporting evidence for their positions judiciously, and left the reader with calls to action or contemplation, rather than simple restatements of the arguments presented.

Though scored independently, the strong nexus between the criteria of *audience*, *persuasive devices*, and *ideas* in this type of task rewards students who are prepared to take on 'the big idea' and explore this in a more engaging way. Alternatively, students who wrote with passion and commitment about a subject they knew very well, even if it was something as specific as the off-side rule in football or the injustice of differing bedtimes for siblings, produced creditable responses.

The NAPLAN marking rubric also allocates significant score points to the skills areas of *sentence structure*, *punctuation* and *spelling*. Persuasive writing almost encourages the use of adverbial clauses and phrases indicating causation and condition. In the 2014 Writing test, the repetition of the same conjunctive forms (e.g. *if* and *because*) narrowed expression to some degree. Stronger scripts, mainly the work of students in upper grades, showed variety and control over complex sentence forms, with 'punchy' simple sentences (and even sentence fragments) occasionally used for marked effect. Punctuation, particularly sentence boundary punctuation, was generally not handled well. Oral language patterns may have contributed to the prevalence of sentence 'run-ons', 'splice' commas and the like.

## References

Australian Curriculum, Assessment and Reporting Authority, 2013 *Australian Curriculum: English*  
[www.australiancurriculum.edu.au](http://www.australiancurriculum.edu.au)

Queensland Curriculum and Assessment Authority, 2013 *Hidden worlds*  
[www.qcaa.qld.edu.au/downloads/p\\_10/3579\\_wt\\_hidden\\_worlds.pdf](http://www.qcaa.qld.edu.au/downloads/p_10/3579_wt_hidden_worlds.pdf)

Queensland Curriculum and Assessment Authority, 2011 *Queensland's Literacy Test: A framework for describing spelling items*  
[www.qcaa.qld.edu.au/downloads/p\\_10/3579\\_describing\\_spell\\_items.pdf](http://www.qcaa.qld.edu.au/downloads/p_10/3579_describing_spell_items.pdf)

# Year 3 Literacy

## Year 3 Language conventions

### Spelling — Results and item descriptions

The percentage columns give the proportion of correct answers (facility rates). These results are based on provisional data.

Item	Answer	Qld%	Aust%	Description
Proofreading — error not identified				
1	C	93.2	94.2	Identifies a word ending in the rime <i>-ill</i> .
2	D	89.6	91	Identifies a word ending with the digraph <i>-ea</i> .
3	C	78.5	82	Identifies a short vowel word ending in <i>-ck</i> .
Proofreading — error identified				
4	huge (huje)	75.8	78.4	Correctly spells a word ending with the soft <i>g</i> ( <i>-ge</i> ).
5	bath (barth)	67.7	73.5	Correctly spells a word with an ambiguous vowel sound.
6	honey (huney)	50.6	54.5	Correctly spells a word with the short vowel sound <i>-u</i> represented by <i>-o</i> in the first syllable.
7	third (therd)	52.4	52.5	Correctly spells a word with the digraph <i>-ir</i> .
8	knock (nock)	45	46.3	Correctly spells a word with the initial silent consonant <i>k-</i> .
9	rows (rose)	34.6	41.4	Correctly spells a homophone with the digraph <i>-ow</i> .
10	signal (signel)	23.4	29.3	Correctly spells a word where the final unstressed syllable ends in <i>-al</i> .
11	ribbon (ribben)	23.6	29.6	Correctly spells a word with a schwa ( <i>o</i> ) in the unstressed second syllable.
12	halves (halfs)	15.3	17.1	Correctly spells a word with the plural requiring a change to the base word ( <i>f</i> to <i>ve</i> ).
13	squirts (skwirts)	10.8	11.8	Correctly spells a word beginning with the trigraph <i>squ-</i> .
14	tissues (tishues)	7.8	10.9	Correctly spells a word with <i>-s/s(u)</i> at the syllable junction.
Proofreading — error not identified				
15	rainbow (ranebow)	65	68.3	Identifies an error, then correctly spells a compound word with the digraph <i>-ai</i> in the first word.
16	deep (deap)	54.4	57.2	Identifies an error, then correctly spells a word with the long vowel digraph <i>-ee</i> .
17	brushes (brushs)	46.3	48.7	Identifies an error, then correctly spells a word where the inflectional ending <i>-es</i> is added without a change.

Item	Answer	Qld%	Aust%	Description
18	planets (plannets)	44.1	49.1	Identifies an error, then correctly spells a word with a closed syllable pattern.
19	pushed (pooshed)	46.8	50	Identifies an error, then correctly spells a word with the ambiguous vowel represented by <i>-u</i> .
20	lighthouse (litehouse)	48.5	51.3	Identifies an error, then correctly spells a compound word with the long <i>i</i> pattern ( <i>igh</i> ) in the first word.
21	memory (memmory)	33.5	40.9	Identifies an error, then correctly spells a multisyllable word with a closed syllable pattern.
22	floating (floting)	35.3	37.6	Identifies an error, then correctly spells a word with the digraph <i>-oa</i> .
23	spicy (spicey)	20.8	26	Identifies an error, then correctly spells a multisyllable word where the adjective forming ending <i>y</i> requires a change to the base word ( <i>e-drop</i> ).
24	skeleton (skeleten)	13.9	18.8	Identifies an error, then correctly spells a multisyllable word with a schwa ( <i>o</i> ) in the unstressed final syllable.
25	scissors (sissors)	6.3	9.7	Identifies an error, then correctly spells a two-syllable word with the digraph <i>sc-</i> .

## Year 3 Spelling: Key messages

### Performance

The performance of Queensland Year 3 students on the first five items of the 2014 NAPLAN Spelling test demonstrated that students were able to map sounds to letters very well. They demonstrated that they had an understanding of the use of double consonants *-ll* at the end of a word containing the short vowel *-i*, (item 1), as well as the use of the digraph *-ea* instead of *-ee* in the word *tea* (item 2). Queensland students also performed well on the first two error-identified items, *huge* (item 4), a two-syllable word with a soft *-g*, and *bath* (item 5), a one-syllable word with an uncommon sounding of the vowel.

As anticipated, students found spelling particularly challenging in words with the final *-k*, as in *black* (item 3) and *knock* (item 8), even though this was not the targeted error in *knock*. This is because young students generally learn to spell words with short vowels first and therefore learn that many of these words end in *-ck*. Long vowels are taught at a later stage and so students tend to generalise the pattern they learnt with short vowels, i.e. *-ck*, and use it to end words with long vowels. This was evident in item 17, where many students selected the word *soaking* as the incorrect spelling and wrote *soacking* and *socking*, instead of choosing the targeted word, *brushes* (*brushes*). To help refine their knowledge of the spelling of words with a final *-k*, students need to know that short vowels are usually followed by *-ck*, while long and *r*-controlled vowels, as in *bark*, are followed by a single *-k*.

The second and third set of items tested aspects of spelling such as the coding of vowels, the adding of suffixes and the spelling of common homophones. These elements are a major teaching focus in Year 2 (ACELA1471 and ACELA1472), and Year 3 (ACELA1485 and ACELA1486).

Performance on this test shows that, at this stage of development, students find many spelling patterns more challenging in multisyllable words or in homophones, such as in item 9, *rows* (*rose*), where decisions about meaning dictate the vowel patterns. Analysis of the common errors suggests that some Queensland students were unable to make efficient use of the contextual information provided in the sentence and appeared not to recognise the target word. This indicates

that students are unaware of the importance of the meaning layer of spelling and need to further develop their knowledge of the spelling-meaning connection rather than rely on sounding out.

In the second set of items (error identified), Queensland students appeared to lack the vocabulary knowledge to spell some words correctly. In item 13, *skwirts* (*squirts*), it appeared that students did not read-on or re-read the sentence for contextual understanding and only 11% were able to spell the word correctly. Many students focused on the *-k* in the error and wrote *skirts*. Reading-on or re-reading the sentence with this word should have indicated that *skirts* was incorrect.

Students in Year 3 are beginning to understand syllable patterns. They are ready for direct, focused teaching. Several words required students to use knowledge of syllable patterns — *ribbon*, *tissues*, *spicy* and the more difficult *planets* and *memory*. Many students, unable to spell *ribbon* (item 11), did not recognise that the doublet *-bb* in *ribben* (*ribbon*) was correct. More than a third of students had only a single *b* in their misspelling. However, there is also a large group of students, around 20%, who did recognise the doublet but relied on their pronunciation of the word to determine the vowel. This caused them to make errors such as *ribban* *ribben*, *ribbin*. The teaching point here is that students cannot rely on their ears but have to rely on their eyes to know how the vowel sound is represented.

In the more difficult word *tissues*, Year 3 students did not recognise the doublet at all. In *tissues*, the doublet (*ss*) is followed by a *-u* which gives the second consonant a different sound from the first. Students demonstrated that they were relying on sounding out to spell the word. The majority of errors kept the *-sh* and targeted the end of the word as the misspelling, for example *tishuse* and *tishyous*. About 8% of students were able to spell this word correctly. Some did not know the word and seemed to look at their teacher's desk and write what they could see, for example *pencils*, *chocolates*, *books*.

Target words where students needed to understand the word-function layer of the spelling system were those such as *brushes*, *floating* or *pushed*, i.e. those with a base word + ending. Students seemed unable to identify the base word in order to be able to identify whether the error was in the base word, the ending or the convention for adding the ending. In an error-identified item, the plural word *brushes*, 46.3% of Year 3 students in Queensland could recognise the need to add *-es*, *brushes*.

Both items 15 and 20 were compound words, *rainbow* and *lighthouse*. While 65% of students were able to identify the error in *rainbow* and correct it, the error patterns demonstrated that a number of students did not break the word down into its meaning parts to check the spelling of each word and select the correct digraph *-ai*. The largest error pattern saw the students drop the *-e* in the given error *ranebow* to write *ranbow*. If they had split the word into two — *rain* and *bow* — they would have been able to see their mistake and possibly correct it. The error patterns for *lighthouse* showed that here too, students were unable to recognise the two words. Fewer students were able to identify *lighthouse* as the incorrectly spelt word, choosing instead *reef*, *shallow* and *island*. This accounts for the difference in the facility rates for these two items.

Students also need to be test-wise enough to know that the circled, identified word is wrong and that they should not reproduce it as a correct answer. In nine of the 11 error-identified words, the target word was one of the five most common errors.

## Implications for teaching

The error patterns on items where the students need pronunciation and coding knowledge suggests that the bulk of students are still working in the *letter-name stage* of spelling. The major focus of their spelling is on the *sound layer* and they need explicit teaching of the *word function* and *meaning* layers of the spelling system to assist with the correct spelling of plurals, common multisyllable words and compound words.

Students need to be explicitly taught problem-solving strategies for learning and monitoring their spelling as well as for use in proofreading. They need an understanding of simple and complex letter-sound relationships, an ability to notice and use patterns in words (how words sound, how they look and their meaning), and an ability to use a repertoire of word-solving strategies. As students learn about the coding of long vowels, they need to learn about sequencing of letter patterns, the positions in which they occur and the frequency with which they occur. This will help spellers make decisions.

The conventions for adding inflectional endings and other suffixes is a key teaching point. Students need to be taught the conventions for adding plural and tense endings. This knowledge becomes the basis for understanding syllable patterns.

The convention of doubling is of critical importance, as it is one that will help students understand syllable patterns. An understanding of what makes a syllable open or closed is also an important concept to be taught. It is worth noting that three items in the 2014 Spelling test were based on closed syllables that were not signalled by two consonants — *honey*, *planet* and *memory*.

Year 3 students need to be overtly taught about the influence of meaning on spelling. It is important that they develop the key understanding that words with similar meaning will maintain their spelling even if the pronunciation changes, for example *sign* and *signal* (item 10). Similarly, words with different spelling, even if they sound the same, will have a different meaning, for example *rows* and *rose* (item 9). Students need to learn that all facets of the English spelling system need to be used, not just the sound layer. The knowledge that students develop as they explore homophones provides the foundation on which understanding of the meaning layer can be built.

The ability to apply spelling knowledge to proofreading is a sophisticated activity. Students must be able to draw on their knowledge about the spelling system in an organised and strategic way. Performance on the error-unidentified items shows how difficult this is. Students need support to develop their proofreading skills through focused and direct teaching. This knowledge can be built by using learning strategies such as Look-Say-Cover-Write-Check, or the BEE keys which ask students to observe, remember and use specific word features such as sequence, frequency and position of letters. That is, during these strategies, they need to be able to articulate what it is that they are looking at, what they are checking for and what strategies they apply to this knowledge.

Please refer to SunLANDA for a detailed analysis of individual test items, including teaching ideas designed to assist with the development of the understanding and skills required by each item. SunLANDA is available to all schools on the QCAA website.

## Grammar and punctuation — Results and item descriptions

The percentage columns give the proportion of correct answers (facility rates). These results are based on provisional data.

Item no.	Answer	Qld%	Aust%	Description
26	D	94.6	95.3	Identifies the correct personal pronoun, <i>we</i> .
27	A	90.8	92.1	Identifies the correct conjunction to show a cause/effect relationship between clauses.
28	C	85.8	87.1	Identifies the coordinating conjunction, <i>and</i> .
29	B	85.4	86.9	Selects the correct comparative adjective, <i>harder</i> .
30	C	84.4	85.8	Identifies the correct preposition to introduce a phrase.
31	C	84.5	84.7	Identifies correct sentence boundary punctuation.
32	B	77.3	78.1	Identifies the correct preposition to introduce a phrase.



Item no.	Answer	Qld%	Aust%	Description
33	D	75.1	77.4	Identifies a sentence with correct subject-verb agreement.
34	C	66	67.5	Identifies the correct pronoun to replace a compound object.
35	D	66.1	66.1	Identifies the correct capitalisation of proper nouns.
36	C	69.2	66.6	Identifies the action verb, <i>runs</i> .
37	C	64.7	65.6	Identifies the correct subject-verb agreement.
38	A	55.7	59.7	Identifies correct sentence boundary punctuation.
39	A	52.1	55.2	Identifies the correct use of the adverb <i>there</i> .
40	A	52.4	55.2	Identifies the correct use of capital letters for proper nouns.
41	D	45.7	47	Identifies the correct sentence boundary punctuation between two simple sentences.
42	A	53.9	57.2	Identifies the correct punctuation of direct speech in a statement.
43	B	50.6	51.6	Identifies the function of an adverb.
44	C	39.2	40.4	Identifies the correct use of commas in a list.
45	A	45.1	44.1	Identifies the correct auxiliary verb.
46	D	43.8	43.4	Identifies a noun.
47	B	32.4	32.7	Identifies the correct pronoun reference.
48	D	28.3	29.6	Identifies the correct position for an apostrophe of contraction.
49	B	28.5	30.4	Identifies the correct indefinite article before a noun beginning with a vowel.
50	D	26.8	25.8	Identifies the correct position for an apostrophe of contraction.
51	C	25.3	25.3	Identifies an adverb of time.

## Grammar and punctuation — Key messages

There were 26 questions in this part of the test. Seventeen were about grammar and nine about punctuation.

### Performance

Queensland's performance on the grammar and punctuation questions was very similar to that across Australia, with only small variations from the national result.

### Grammar

Grammar has both form and function. The first five questions asked Year 3 students to select the correct grammatical form from natural language. Most were able to do this. For example, more than 85% of students were able to select the correct conjunction to link two clauses to show a cause-and-effect relationship (item 27) and to indicate the addition of information (item 28). Almost 85% were able to select the correct preposition to introduce a phrase (item 30), but where the example was slightly less common — *I am happy **about** going on holidays* — the result was slightly lower. These results indicate that most Year 3 students are able to combine prepositions using the grammar of everyday language. This knowledge forms a sound basis on which teachers can build so that students learn about and develop control of more sophisticated ways of linking clauses and phrases, particularly in written language. Similarly, most students (75.1%) were able

to recognise correct subject-verb agreement in a simple sentence. In this case, the item was constructed using discrete sentences for each of the options. Item 37 (64.7%) also assessed subject-verb agreement, but the stem gave less support, requiring students to recognise what was wrong and select the correct option.

In 2013, 61% of Year 3 students were able to identify a noun preceded by an article. This year, students were asked to identify a noun from a complex sentence (item 46). In the same way that it was in 2013, the noun was signalled by an article. However, this year one of the distracters was an adjective which required finer discrimination resulting in a lower facility rate (43.8%).

Where students had to recognise the function of an aspect of grammar such as items 43 and 51, they found the items more difficult. In these items, they had to understand the role of an adverb. In item 39, students were asked to identify the adverb *there* and to recognise its correct spelling. While 52.1% of Queensland students were able to do this, slightly more than a third of the Year 3 students found it difficult to discriminate between *they're* used in two of the options and *there*. Item 51, the most difficult of the grammar questions, asked to identify the function of an adverb of time.

## Punctuation

Most students demonstrated that they knew how the boundaries of a statement should be punctuated (item 31, 84.5%). Where students had to discriminate the kind of end marks that had to be applied (item 38, 55.7%) or where they had to identify the sentence boundaries (item 41, 45.7%), performance was lower. Although students can identify sentence boundary punctuation in earlier years, as they begin to develop more complex sentence structures students need to redefine and relearn their understandings of where the boundaries are. Therefore, focused and explicit teaching of sentence boundary punctuation needs to occur as part of the teaching of more sophisticated sentence structure.

Punctuation that is internal to the sentences, such as commas in a list and the punctuation of direct speech, is challenging to Year 3 students. They need to be helped to understand how these kinds of punctuation are used to mark out smaller units of meaning to support a reader.

Most students were also able to correctly punctuate a proper noun. The difference in performance on the two items that assessed proper nouns may be accounted for by the familiarity students had with the noun involved. While most students were familiar with capitalising days of the week, tested in item 35 (66.1%), fewer Year 3 students were aware of the need to capitalise the words *Parliament House* (52.4%). The capitalisation of proper nouns, particularly those attached to less well known places, requires students to have some background knowledge of the places and how the vocabulary is categorised. Student understanding of the punctuation of proper nouns can be expanded as they are encountered, particularly in learning areas such as Geography and History.

Year 3 students found apostrophes of contraction the most challenging of the punctuation items. This is consistent with the results in previous years.

## Implications for teaching

Both grammar and punctuation need to be taught as they are used in reading, writing and speaking. As the grammar test is one of standard Australian English, it is important that students know how different language forms are used in different contexts to establish different meaning. Colloquial forms of the language are often used in questions as distracters, and while students may hear this form commonly used in everyday language, they need to know it is usually not acceptable in written language and is unlikely to be correct in the *Language conventions* test.

Focused instruction about grammar at the word level should occur as part of the spelling program as well as during writing. In the case of words such as *their*, *they're* and *there*, the spelling choice has to be made on the basis of grammatical function. Knowing the spelling-grammar connection

will help students recognise and use nuances of meaning when reading, listening and writing.

In teaching students about grammar, it is important for students to discuss and learn what the grammatical form is and the part it plays in the construction of meaning. Students need to develop and use the appropriate terms so that there is a common language for sharing knowledge. In reading, students need to be taught how to use this information as the basis of reading strategies, such as when to read on and to re-read.

Please refer to SunLANDA for a detailed analysis of individual test items, including teaching ideas designed to assist with the development of the understanding and skills required by each item. SunLANDA is available to all schools on the QCAA website.

## Writing task sample

Year 3

### Cleaning Up

Why would anyone want to waste time cleaning up? Instead of that you could be watching a family movie or playing, which is a lot more fun.

What's the point of cleaning up when it will just get messy again in a day or two? Kids hate tidying up. They tell their parents but they never listen. Children should be able to have fun instead of cleaning for an hour.

Cleaning up is wasting heaps of time. Parents say it's not wasting time but it is. Who wants to waste an hour or more tidying up when it's just going to get more and more untidy?  
**NO ONE!!!**

Parents say, "But things will get lost if it isn't tidy." But then things do get lost because they aren't in the same place as normal. Not

cleaning up saves you more time because  
you can find things without looking for ages.

People should start to leave rooms how they  
are instead of tidying up all day long. Think of  
how much time it saves you.



## Year 3

<b>Audience</b>	<b>4</b>
The writer provides enough information to support reader understanding of the argument and is beginning to engage and persuade. This emerging author's voice is developed through techniques such as direct appeals to the reader <i>Why would anyone want to waste time ...</i> , logical reasoning (see paragraph 4) and comparing ideas and emotive language to appeal to readers <i>... have fun instead of cleaning for an hour</i> .	
<b>Text structure</b>	<b>3</b>
Text contains all three components, each with some development. The first paragraph introduces the issue, cleaning up is a waste of time, as the writer's position on this issue. The body picks up points from the introduction and elaborates on these. The conclusion pulls together the main thrust of the argument and makes a final appeal to the reader. Not enough development of ideas to score 4.	
<b>Ideas</b>	<b>3</b>
Ideas are developed to persuade readers that cleaning is a waste of time. A clever development occurs between paragraphs two and three. Paragraph two attempts to convince readers that children should be having fun instead of wasting time cleaning. Paragraph three then gives more detail about why cleaning is a waste of time. The final idea is an emergent, yet successful, refutation of a parent's view on the subject. The writer twists the parent's argument to prove their own point.	
<b>Persuasive devices</b>	<b>3</b>
The writer uses some persuasive devices effectively. Devices include the use of rhetorical questions <i>What's the point?</i> , answering a rhetorical question emphatically <i>NO ONE!!!</i> , conjunctions and connective to compare one situation with another, <i>instead</i> , <i>but</i> and emotive words such as <i>waste of time</i> .	
<b>Vocabulary</b>	<b>3</b>
Mostly simple words and word groups with some precise persuasive language. By themselves words like <i>an hour</i> , <i>more</i> and <i>untidy</i> are simple, but when phrased as <i>an hour or more</i> and <i>more and more untidy</i> , they give emphasis to a significant amount of time and thus make the use precise. Similarly, the question starters <i>Why would anyone</i> and <i>What's the point</i> are used for their persuasive effect.	
<b>Cohesion</b>	<b>3</b>
Some good lexical strings about time — <i>waste of time</i> , <i>in a day or two</i> , <i>for an hour</i> , <i>an hour or more</i> , <i>all day long</i> are used throughout the text. There is also good repetitive phrasing used to refute parent argument. <i>Parents say 'But things will get lost ...'</i> And the response <i>But then things do get lost ...</i>	
<b>Paragraphing</b>	<b>1</b>
Obvious breaks between each idea. High score 1. There is not enough development of ideas in paragraphs to score 2.	
<b>Sentence structure</b>	<b>4</b>
Mostly complex sentences using a range of conjunctions including <i>which</i> , <i>when</i> , <i>instead of</i> , <i>because</i> . Enough control of elaborating clauses and phrases for low score 4.	
<b>Punctuation</b>	<b>4</b>
All sentence boundary punctuation correct including full stops, question marks and exclamation marks. Correct use of commas for phrasing, apostrophes of contraction <i>What's</i> and punctuation of direct speech. Enough evidence for score 4.	
<b>Spelling</b>	<b>3</b>
More than 20 common words correct, but no difficult words.	

# Reading

## Results and item descriptions

The percentage columns give the proportion of correct answers (facility rates).  
These results are based on provisional data.

Item	Answer	Qld%	Aust%	Description
Max's idea (Narrative)				
1	A	96.3	96.8	Identifies the main character.
2	D	94.8	95.3	Locates directly stated information.
3	B	90.2	91.6	Locates directly stated information.
4	A	91.6	92.9	Makes a synonymous match to answer a literal question.
5	A	90.4	91.3	Locates directly stated information.
6	4, 2, 3, 1	84.1	86.6	Sequences the order of events.
The best smellers (Informative)				
7	D	87	87.7	Identifies the main idea of an information text.
8	C	78.7	80.3	Infers a key piece of information.
9	A	89.5	91.1	Locates directly stated information.
10	D	61.6	64.6	Infers the relationship between two pieces of information.
11	A	83.2	85.6	Locates and interprets information.
12	D	62.2	64.8	Interprets information.
13	B	75.8	78.4	Infers the purpose of a text.
Geronimo Zero (Informative)				
14	D	51.6	54.2	Interprets directly stated information.
15	C	49.8	51.5	Integrates information to infer a movement.
16	A	63.3	66.4	Interprets directly stated print and visual information.
17	C	79.3	81.9	Locates directly stated information.
18	A	73.7	77.2	Interprets directly stated information.
19	B	54.8	58	Interprets persuasive language in an advertisement.
Trumpet troubles (Narrative)				
20	D	18.4	19	Infers the mood of the setting of a story.
21	B	26.6	26.1	Interprets the feelings of a character.
22	D	47.3	50	Interprets directly stated information.
23	B	53.8	58.1	Interprets directly stated information.
24	C	46	47.2	Interprets directly stated information.
25	C	52.1	53.8	Interprets the effect of an exclamation.

Item	Answer	Qld%	Aust%	Description
Chocolate trees (Informative)				
26	D	39.7	41.4	Identifies the purpose of sub-headings.
27	B	48.3	51.2	Interprets directly stated information.
28	B	57	58.3	Interprets the order of events.
29	C	44.9	47.5	Locates directly stated information.
30	C	34.5	35.9	Interprets directly stated information.
31	B	32.5	34.4	Integrates information to make a text-based inference.
32	*	15	17.6	Interprets specific details in a text.
Mammoth surprise (Informative)				
33	C	41.3	44.4	Interprets the metaphorical meaning of words.
34	A	63.4	67	Makes an inference from given information.
35	B	10.3	9.1	Interprets information across the text to make an inference.
36	A	45.7	48.7	Interprets directly stated information.
37	D	35.8	38.3	Identifies the reason for quoting an expert.
38	B	14.6	14.4	Interprets the purpose of a date in an article.

**\* For item 32**

**Correct responses** referred to the geographical area (or conditions associated with this) and/or scooping out seeds and leaving piles in the sun.

- which area they came from
- where they are grown
- the soil they grow in
- leaving the seeds in the sun for a time
- scooping the seeds out and leaving them in piles for 7 days

**Incorrect responses** referred to things other than to the geographical area or scooping out seeds and leaving them in piles in the sun.

- sugar and milk
- the taste
- the beans

## Year 3 Reading: Key messages

### Performance

Queensland students performed well on the easier questions and less well on the more difficult questions. Overall, the Queensland performance was similar to that of previous years.

Literal questions about the short narrative text, *Max's idea*, and the poster, *Geronimo Zero*, were answered correctly by 90% or more of Queensland Year 3 students.

While Queensland girls generally performed better than boys on most questions, a higher percentage of boys correctly answered three inferential questions, items 14, 15 and 16. These questions all related to the name or actions involved in the *Geronimo Zero* ride, something perhaps boys may have more experiences of or interest in than girls. Boys also performed as well as or better than girls on some inferential questions from the two informative texts, *Chocolate trees* and *Mammoth surprise*. The literal question, item 29, which required students to make a direct match between the words in the stimulus — *In fact, most of the world's cocoa beans are now produced in West African countries.* — and those in the answer — *Most cocoa beans now come from West Africa.* — proved more difficult for boys (43%) than girls (47%). To locate the correct

answer, students had to persist with reading to the end of the stimulus, which may have contributed to the fact that this item had the lowest score for a literal question on the Year 3 paper, 45%.

Many of the questions that caused Year 3 students problems were those that required them to interpret and integrate information. Some questions required the interpretation of higher level vocabulary such as words used:

- emotively — *groaned, reluctant, disappointed, originally*
- in a technical way — *support a person's weight*
- in an unfamiliar way — *stumbled upon, sudden silence, delicate*
- with multiple meanings or functions — *now, indicating a new finding*
- as metalanguage — *(gloomy) mood.*

Other questions required students to have the strategic knowledge to determine the answer. They needed to be able to:

- integrate knowledge of the world with ideas in the stimulus
- apply their knowledge of texts to the language and ideas
- integrate information across different parts of the text.

Some of the more difficult items asked the question in a way that required careful reading. For example, item 31 was challenging to all Australian students. It asked, *Which question is not answered by the text?* Questions that ask students to find something that is not correct or is an exception present a cognitive challenge as people find it is easier to use similarity to make an association.

Year 3 students across Australia also find questions that require a written answer difficult. In these questions, students have to not only read and understand the question, they have to construct a clear answer. Item 32 was such a question. That 14% of Queensland students failed to attempt this question is further evidence of the difficulty this kind of item presents.

## Implications for teaching

Continued work on the development of vocabulary is an essential component of Year 3 reading programs. Students need to increase both the range and depth of their vocabulary. Teachers can extend students' vocabulary knowledge through texts that provide opportunities to explore new topics, different learning area knowledge and a range of text types.

Increasingly, students in Year 3 will encounter more and more figurative vocabulary where the meaning is something more than might first appear. They need to understand the difference between what is **said** and what is **meant**. More explicit teaching would contribute to greater awareness of this concept. Planned discussions about the choice and meaning of words in the texts students read, listen to and view will assist students' comprehension.

Students need to be familiar with a range of question types and be able to unpack what a question or reading comprehension task requires of them as readers. For students who struggle, this may be an important first step towards successful reading and comprehension.

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# Year 3 Numeracy

## Results and item descriptions

The numeracy strands are abbreviated as follows: Algebra, function and pattern (AFP); Measurement, chance and data (MCD); Number (N); Space (S). All items are worth one score point. The percentage columns give the proportion of correct answers (facility rates). These results are based on provisional data.

Item	Strand	Answer	Qld%	Aust%	Description
1	MCD	D	96.7	97.4	Identifies the tallest object from a given selection.
2	S	B	95	96.4	Interprets ordinal numbers to locate a position.
3	S	A	94.9	95.3	Identifies the longest distance on a simple map.
4	AFP	B	91.1	92.2	Continues a descending counting pattern.
5	N	C	90.7	92.4	Recognises the place values in a 2-digit number.
6	MCD	D	82.8	83.5	Interprets tally marks represented in a table.
7	N	D	78.2	80.9	Solves an addition problem involving regrouping.
8	N	C	78.2	79.3	Compares 3-digit numbers to identify the smallest.
9	MCD	D	68.1	69.5	Matches a written time to a digital representation.
10	S	C	69.3	70.2	Identifies a 3-D shape represented in two parts.
11	S	B	72.1	73.5	Solves a problem involving the number of edges in a cube.
12	AFP	23	63	66	Calculates the missing addend in a number sentence.
13	N	B	59.3	61.9	Solves a division problem involving a remainder.
14	MCD	D	59.8	63.4	Calculates the total length using given uniform informal units.
15	N	3	50.6	53.2	Calculates the whole number represented by given quarters.
16	S	B	51.7	53.4	Recognises an object from a different viewpoint.
17	N	C	47.2	50.4	Uses reasoning to position a number on a number line.
18	N	A	54.8	58.9	Calculates the difference in heights from measures given in a table.
19	MCD	A	38	42.5	Uses whole and half-shaded squares to compare the areas of shapes.
20	MCD	C	46.5	46.9	Interprets a calendar to solve a time problem.
21	S	A	35.8	38	Visualises the shape that results from folding and cutting.
22	MCD	B	40	40.6	Interprets a table of data to answer a question.
23	MCD	C	26.5	28.5	Identifies the result of transformations.
24	MCD	B	29.5	33.3	Interprets a simple column graph to answer a question.
25	N	24	29.5	32.3	Solves a money problem requiring multiplicative thinking.
26	S	D	26.8	28.2	Recognises the shape made from overlapping shapes.
27	AFP	7	24.6	25.7	Continues a number pattern to solve a problem.



Item	Strand	Answer	Qld%	Aust%	Description
28	AFP	9	17.8	20.5	Solves a multistep problem involving partitioning, multiplication and division.
29	N	3	21.8	25.8	Solves a problem involving reasoning and multiple computations.
30	MCD	D	23.9	26.2	Interprets a table of data to answer a question.
31	S	D	23.9	21.7	Determines the number of edges in an irregular 3-D object.
32	AFP	1.10	11.9	14.6	Calculates the cost of an object from the change received.
33	N	879	9.5	12.7	Uses place value and addition to solve a number problem.
34	MCD	20	6.7	7.6	Interprets information presented in diagrams to calculate an unknown length.
35	S	35	15.9	17.2	Interprets scale and cardinal points on a map to calculate a distance.

## Year 3 Numeracy: Key messages

### Performance

The Numeracy paper tests concepts and skills from across the strands.

The number of Queensland students answering the items correctly ranged from 96.7% for the first item through to 6.7% for item 34. Over half the items tested were answered correctly by more than 50% of students. The types of numeracy skills demonstrated by more than 80% of Year 3 students included:

- counting backwards from a given two-digit number, including bridging a ten
- representing two-digit numbers with bundles of ten
- interpreting a simple table of data where tally marks have been used.

Most of these items were situated early in the paper, where the less challenging items are placed. The items became more challenging as students progressed through the test. These more challenging items provide students with opportunities to apply their existing knowledge and skills to other contexts and situations. Students who have a good knowledge of, and are confident in, using a range of concepts and skills are more likely to solve these types of items. For example, item 32 involved a series of computations. Students needed to add and subtract with money to determine a missing price. It required comprehension of the problem, the selection of applicable operations and knowledge of how to check that their solution was correct.

Knowing what the students put as their answers can help determine what errors, if any, were made. Item 32 was a constructed response and so each student's incorrect responses are collected and reported in the class report. Common errors seen across the state for this item included the avoidance of regrouping, i.e. where students have not regrouped from the cents to the dollar, and where students have worked with only the whole dollars, ignoring the cents.

The most difficult item on the paper was item 34. Only 7% of students in Australia answered it correctly. Students needed to use logical thinking and deductive reasoning to work out the height of the given model. It required Year 3 students to use all the available information in the diagram to work out the length and width of a smaller block and combine this with some geometric knowledge of squares to work out the final height of the model.

Queensland students outperformed the national result by 2% on item 31. It required recognition of the number of edges in an irregular 3-D object and provided some evidence that the students answering it correctly have knowledge of some geometric properties of 3-D shapes.

Schools and teachers can use overall performance data to compare against their own data. They can also use this to evaluate how difficult a particular aspect of numeracy was for all Year 3 students. If teachers combine this with similar data from previous NAPLAN tests, they can judge for themselves the relative difficulty of various concepts and skills. For example, many teachers would expect most Year 3 students to be able to perform a subtraction operation with two-digit numbers, however the data show that when the subtraction is presented as a missing addend, as it was for item 12, many students are confused. They don't link addition to subtraction. They have not internalised the inverse connection between the two operations. This year 63% of Queensland students answered it correctly. Teachers may want to look at their class results and compare how their students performed on this item. Looking back over time, the comparison and missing addend subtraction problems are usually more challenging than the straight take-away situations.

### **Implications for teaching**

There were several space items that required the skill of visualisation. This skill can help students with further geometric understandings. Being able to make mind pictures or to imagine a change or transformation to a shape can help students with later concepts such as tessellations, 3-D structures, designs and patterns. Dutch researchers van Hiele and van Hiele (cited in Pegg 1985) identified visualisation as the first level of geometric thinking. They argue that central to geometric thinking is this initial ability to manipulate and transform spatial images in the mind. They base a lot of their early spatial activities on everyday situations and experiences, such as building, cutting and drawing shapes.

Visualisation also helps develop problem-solving skills as students create, manipulate and transform spatial images in the mind. Lowrie and Diezmann (2007, 2009) found that visualisation can help build capacity to interpret diagrams, maps and graphs. This year items 16, 21, 23 and 26 required students to manipulate spatial images in their minds or imagine an object from different viewpoints. Results for these items show that Queensland's performance was approximately 2% below the national facility rate and this may be an area for further investigation.

Teachers can incorporate visualising into classroom spatial activities. For example, to help develop visual memory, teachers may want to provide opportunities for students to change or transform actual shapes and objects. Teachers may build into everyday class activities opportunities for students to imagine changes or transformations of shapes or arrangements before creating them. Students can also develop their visualisation skills by taking photos of shapes and objects from various viewpoints. Teachers need to point out to students how to use the various features of shapes and objects to recognise them from a different orientation or viewpoint.

Solving computation problems may be another area where teachers may wish to review the data. This year there were eight items that tested computation — four addition and subtraction problems (items 7, 12, 32 and 33) and four multiplication and division problems (items 13, 25, 28 and 29). Year 3 students are developing and extending their understandings of these operations and the results will provide insights into how they are perceiving them. Incorrect responses given in class reports will be helpful in identifying misconceptions.

For addition and subtraction they should have had many experiences with the concept and have a bank of addition and subtraction facts to draw on. To help strengthen students' perception of addition and subtraction problems teachers may want to provide opportunities to demonstrate the inverse relationship between the two operations.

For example, teachers might start with number facts and demonstrate all the related facts. Sometimes these are referred to as fact families ( $7 + 8 = 15$ ,  $8 + 7 = 15$ ,  $15 - 8 = 7$  and  $15 - 7 = 8$ ). Knowing the relationship between addition and subtraction or being able to recognise an additive situation will help equip students with more strategies for solving problems. Asking students to identify the part/part/whole relationships when studying the addition fact families will help with missing addend subtraction.

### Addition fact family



Similarly with multiplication and division, teachers should start with basic concept work and use the models of grouping, length and arrays to build understandings. As important, is the work developing familiarity with the inverse relationship. Being fluent in the number facts will help to strengthen that understanding. Most important is the difference in structure between addition and subtraction and multiplication and division. Although multiplication and division can be seen as an extension of addition and subtraction in early conceptual work, teachers should move quickly to develop multiplicative thinking and distinguish it clearly from additive thinking.

It should be remembered that these are overall results and what is observed across the state may not be relevant to an individual school. The implications for teaching should be viewed as suggestions for schools to consider.

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# Year 5 Literacy

## Language conventions

### Spelling — Results and item descriptions

The percentage columns give the proportion of correct answers (facility rates).  
These results are based on provisional data.

Item	Answer	Qld%	Aust%	Description
Proofreading — error identified				
1	unwell (unwel)	91.5	93	Correctly spells a word ending in the rime <i>-ell</i> .
2	honey (huney)	78	82.1	Correctly spells a word with the short vowel sound <i>u</i> represented by <i>o</i> in the first syllable.
3	third (therd)	76.5	77.3	Correctly spells a word with the vowel digraph <i>-ir</i> .
4	thousand (thowsand)	84.2	82.3	Correctly spells a word with the digraph <i>-ou</i> in the first syllable.
5	trouble (truble)	67.9	69.4	Correctly spells a word with the digraph <i>-ou</i> in the first syllable.
6	dirtier (dirtyer)	61.8	61.8	Correctly spells a word requiring a change to the base word ( <i>y</i> to <i>i</i> ) to form the comparative adjective.
7	signal (signel)	58.2	60.5	Correctly spells a word where the final unstressed syllable ends in <i>-al</i> .
8	ribbon (ribben)	52.5	57.3	Correctly spells a word with a schwa ( <i>o</i> ) in the unstressed second syllable.
9	umbrella (umbreller)	33.3	40.7	Correctly spells a multisyllable word ending with the short vowel <i>-a</i> .
10	enormous (enormus)	32.4	36.9	Correctly spells a multisyllable word with the suffix <i>-ous</i> .
11	squirts (skwirts)	32.8	35.4	Correctly spells a word beginning with the trigraph <i>squ-</i> .
12	bury (berry)	21.6	21.6	Correctly spells a homophone.
13	drawer (dror)	9.1	12.7	Correctly spells a word with two errors — the spelling of the vowel <i>-aw</i> in the base word and in the suffix <i>-er</i> .
Proofreading — error not identified				
14	key (kee)	89.6	91.3	Identifies an error, then correctly spells a word ending with the long vowel <i>-ey</i> .
15	lighthouse (litehouse)	77	78.9	Identifies an error, then correctly spells a compound word with the long <i>i</i> pattern ( <i>igh</i> ) in the first word.
16	paused (pawsed)	63.9	66	Identifies an error, then correctly spells a word with <i>-au</i> in the base word.

Item	Answer	Qld%	Aust%	Description
17	floating (floting)	57.4	59.7	Identifies an error, then correctly spells a word with the long vowel digraph -oa.
18	bridge (brige)	58.4	60.3	Identifies an error, then correctly spells a word ending in -dge.
19	wheelbarrow (weelbarrow)	42.1	47.9	Identifies an error, then correctly spells a compound word beginning with the consonant digraph wh-.
20	skeleton (skeleten)	37.1	43.4	Identifies an error, then correctly spells a multisyllable word with a schwa (o) in the unstressed final syllable.
21	sausage (sossage)	34.2	38	Identifies errors, then correctly spells a word with the digraph -au and the single s at the syllable juncture.
22	disposable (disposible)	18.6	21.6	Identifies an error, then correctly spells a word where the addition of the suffix -able requires an e-drop.
23	spinach (spinich)	13.5	19.2	Identifies an error, then correctly spells a word with the schwa (a) in the unstressed syllable.
24	aggressive (aggresive)	11.5	14.8	Identifies an error, then correctly spells a multisyllable word with the doublet s/s at the syllable junction.
25	caterpillar (catapillar)	8.8	10.8	Identifies an error, then correctly spells a multisyllable word with an unstressed second syllable.

## Year 5 Spelling: Key messages

### Performance

Year 5 students should be developing their understanding of the orthographic system and be able to recognise when they need to draw on different layers of the system. The layers involved in the orthographic system are:

- the sound/symbol and pronunciation layer
- the syllable word function layer
- the meaning layer.

All layers were tested in the 2014 Year 5 NAPLAN Spelling test.

Most students attempted all of the error-identified spelling items. It is interesting to note that girls scored better than boys on 24 of the 25 items and on the other one (*skeleton*) they scored the same. The error-unidentified items, 19 to 25, had a higher omission rate. These items were more difficult. In five items, *honey*, *trouble*, *ribbon*, *umbrella* and *lighthouse*, girls scored 10 or more percentage points higher than boys.

Teaching students to engage with homophones and homographs is the beginning of their understanding of the meaning layer of the spelling system. In item 12, where students were asked to correct a misspelling, the error patterns suggest that many students whose responses were incorrect failed to realise that the word was a homophone, writing a variation of *berry*, instead of the correct spelling, *bury*.

Increasing the focus on the spelling-meaning connection will help students learn words such as *pawsed* (*paused*) and *signel* (*signal*) which can be related to the base word, and *huney* (*honey*) where students can be helped by knowing about its history. In these words students need an understanding of the etymology of words to understand why words are spelt the way they are and to make the meaning connections. The error patterns for these words demonstrate how difficult it

is for students to attempt these spellings with only a sound-to-letter matching strategy. In general, the analysis of error patterns throughout the spelling test indicated an over-reliance on, or reversion to, an earlier more embryonic strategy of trying to sound out words letter by letter.

Many of the words students were asked to spell had more than one syllable. This required students to know how to apply coding knowledge learnt in earlier years. This needs to be supported by the teaching of syllable patterns and the conventions for adding affixes, even basic ones such as *-er*. In attempting to correct the spelling of *dirtyer* (*dirtier*), many students whose responses were incorrect, commonly altered the base word rather than the inflectional ending. Students need to be taught the different syllable patterns and the consonant alternation patterns for adding the very common *-ible* and *-able* suffixes.

Other items explored student understanding of syllable patterns, including how vowel sounds perform in stressed and unstressed syllables (*signal*, *umbrella*, *enormous*, *skeleton*, *sausage*, *spinach*, *aggressive*, *caterpillar*). Many students demonstrated an understanding of the spelling patterns for long and ambiguous vowels, correctly spelling both error-identified and error-unidentified words such as *thousand* – 84%, *trouble* – 68%, *key* – 90%, *paused* – 64% and *floating* – 57%. They found the spelling of *sossage* (*sausage*) more challenging, with only 34% of students spelling it correctly. This is possibly due to the incorrect word having *-ss* at the syllable juncture while the correct spelling needed the vowel digraph *-au* and a single *-s* at the syllable juncture. The majority of the error patterns retained the *-ss*. It is interesting to note that the spelling of *therd* (*third*) had a 77% success rate compared with 58% in 2013 when the same pattern was tested in *thersty* (*thirsty*).

In item 11, *skwirts* (*squirts*), it appeared that students did not read-on or re-read the sentence for contextual understanding. Only 33% were able to spell the word correctly. Many students focused on the *-k* in the error and wrote *skirts*. Reading-on or re-reading the sentence with this word should have indicated that *skirts* was incorrect. This was a similar result to a word in the 2011 test, *skwash* (*squash*), where 35% of students were correct and the error pattern was similar to 2014, with a reliance on the *-k* rather than the correct trigraph *squ*. Most students knew that the doublet *-bb* in item 8, *ribben* (*ribbon*), was correct but their pronunciation of the word caused them to make errors such as *ribbin*, *ribban*.

There are still aspects of spelling consonants that remain challenging. Students are still developing their ability to spell the final blend in *brige* (*bridge*), 58% correct, an improvement on a similar word in 2013, *strech* (*stretch*), with 45% correct. Student errors with both words show that many students changed the vowel pattern, failing to notice the missing consonant in the final blend.

## Implications for teaching

In Year 5, many students are consolidating their knowledge of aspects of the sound layer of the spelling system. Once students are confident with spelling consonant digraphs, complex consonant patterns, long vowels, *r*-controlled vowels and diphthongs, they need to examine how these, and particularly the vowel sounds, perform in stressed and unstressed syllables. Year 5 students will benefit from continued explicit teaching of the more ambiguous sounds, for example where a letter can be used to represent more than one sound, as in the case of soft *c* and *g*, or where a consonant sound can be represented by more than one letter as a final hard *k* or *s*.

Explicit and extensive teaching of syllable patterns needs to be a major focus in this year level. Year 5 students are generally able to spell words where the closed syllable patterns are obvious, such as in *ribbon*, and this knowledge provides a basis to teach more difficult open patterns as seen in *enormous*.



Knowledge of the meaning layer of words needs to be extended as students learn commonly occurring suffixes and the conventions for adding them. Students need to be taught about the importance of base words and know that their ability to identify the base word will improve their spelling knowledge, allowing them to spell and edit more complex and even unseen words. For example, students should know that *disposable* is made up of the base word *dispose* and therefore requires an *e*-drop before adding *able* as a suffix. The error patterns would suggest that the students who were unable to spell this word did not know the base word.

Teachers must assist students to see that spelling is an organised body of knowledge. The NAPLAN assessment is primarily a proofreading one, and so it requires students to apply this organised body of knowledge to be able to deconstruct words and apply proofreading strategies. Metacognitive strategies should be used to teach, support and model the decision making needed in learning to spell.

As a test-wiseness strategy, students need to know that they should not rewrite the error as written. In eight of the error-identified words, the target word was one of the common errors.

Please refer to SunLANDA for a detailed analysis of individual test items, including teaching ideas designed to assist with the development of the understanding and skills required by each item. SunLANDA is available to all schools on the QCAA website. SunLANDA materials are also available to Education Queensland schools through *OneSchool*.

## Grammar and punctuation — Results and item descriptions

The percentage columns give the proportion of correct answers (facility rate). These results are based on provisional data.

Item	Answer	Qld%	Aust%	Description
26	B	95.6	95.7	Selects the correct comparative adjective, <i>harder</i> .
27	B	91.7	92.5	Identifies the correct modal adjective, <i>possible</i> .
28	B	89.9	90	Identifies the correct preposition.
29	D	91.7	92.3	Identifies a sentence with correct subject-verb agreement.
30	C	80.7	81.4	Identifies correct subject-verb agreement.
31	A	86.5	87.1	Identifies the correct auxiliary verb for past perfect tense.
32	A	80.7	83.5	Identifies correct sentence boundary punctuation.
33	B	75.2	75.9	Identifies the thinking verb, <i>wonder</i> .
34	D	73.3	74.3	Identifies the correct sentence boundary punctuation between two simple sentences.
35	A	71.2	73.5	Identifies the correct use of capital letters for proper nouns.
36	D	75.7	76.7	Identifies the correct position for an apostrophe of contraction.
37	D	56.4	59.9	Identifies the correct main clause to complete a complex sentence.
38	B	62.3	63	Identifies a complete sentence.
39	C	58.6	59.7	Identifies the boundaries of two separate sentences.
40	C	64.7	64.8	Identifies the correct use of commas in a list.
41	C	59.8	59.6	Identifies the correct conjunctions required to join clauses.
42	D	53.5	51.7	Identifies the compound sentence containing two action verbs.
43	C	53	51.7	Identifies an adjective.

Item	Answer	Qld%	Aust%	Description
44	D	46.8	48.5	Identifies the word needing an apostrophe of contraction.
45	B	40.6	43.5	Identifies a correctly structured complex sentence.
46	D	50.8	51.7	Identifies the correct position for an apostrophe of contraction.
47	D	36.2	36.6	Identifies the complex sentence which correctly combines information from three short sentences.
48	A	30	30.7	Interprets a time sequence using the grammatical signals.
49	C	32.6	34.2	Identifies the correct sentence boundary punctuation for two simple sentences.
50	B	15.4	15.1	Identifies correct pronoun usage.
51	D	12.8	12.8	Identifies an adverb of time.

## Year 5 Grammar and punctuation: Key messages

### Performance

Seven grammar items were answered correctly by more than three-quarters of Queensland Year 5 students. Students performed best on The two punctuation items on which students performed best — 32 and 34 — tested sentence boundary.

Two of the grammar items on which students performed best — 29 and 30 — tested subject-verb agreement. In item 29, the verb was identified and the students had to match the verb to the correct subject. Where students were asked to identify which sentence had correct subject-verb agreement without the verb being identified, as was the case in item 30, the result was 10% lower.

Identifying the verb/verb group in a clause is a key grammatical understanding. To demonstrate their knowledge of what a verb is, students were asked to identify the sentence that had two verbs (item 42). The correct option was a compound sentence, the other three options were simple sentences of a similar length. Just over half of the Year 5 students were able to identify the option with two verbs. Knowledge of verbs and their function is essential for understanding clauses and sentences. Boys and girls performed similarly on items requiring understanding of verbs.

As readers and writers, students also need to be able to construct meaning from elaborated verb groups. Item 51 required students to identify when an action happened, an adverb of time. For an item where seemingly basic grammatical knowledge was tested, performance was relatively low across the nation. Over 60% of Queensland Year 5 students chose either B or C. These students may have misread the question or misunderstood what they were asked to do. Students may have been drawn to the word *action*, rather than *when* in the item question. Both options B and C have words that can be interpreted as possible actions, *slowed* functioning as a verb and *crawl* as a noun. Learning how to interpret what a question is asking may be a useful strategy for students. This skill is necessary in many real-life tasks as well as test situations.

Knowledge of sentence structure was this year tested in items 37, 38 and 39. Girls correctly answered items about sentence structure between 7% and 9% better than boys. Although item 39 was a punctuation item, students needed knowledge of sentence structure to identify the run-on sentence that needed to be punctuated as two separate sentences. The correct response contained two simple sentences. The incorrect options were either compound or complex sentences.

To correctly answer items 37 and 38, students needed an understanding of independent and subordinate clauses, content identified in the Year 5 *Australian Curriculum: English*. Over 50% of students could identify the main clause needed to complete a complex sentence in item 37. On

item 38, more than 60% could differentiate a simple sentence from subordinate clauses punctuated as sentences.

Knowledge of the singular personal pronoun *I* in a compound subject or object was assessed in item 50. Subjective, objective and reflexive forms of the pronoun need to be understood to answer this item correctly. The correct option, the objective form *me*, was chosen by less than 20% of Queensland Year 5 students. Performance on this item was one of the lowest on the test paper. Interestingly, this was one of the few items on this test where the percentage of boys answering correctly outnumbered girls and where Queensland students performed better than the nation as a whole. Most students, nearly 60%, chose the incorrect option, the reflexive pronoun *myself* in the sentence — *Miss Jones or myself will collect it*. Over 20% incorrectly chose the subjective form of the personal pronoun *I* — *Give it to Miss Jones and I* — when the objective form was required. Teaching students to cover the additional noun or nouns in a compound subject or object such as this and then to read the sentence with just the pronoun may be an easy self-checking strategy. *Miss Jones or myself will collect it*. When the three words *Miss Jones or* are covered, the sentence is clearly wrong, *myself will collect it*. Similarly, option A, *Give it to Miss Jones and I*, becomes *Give it to I* rather than the substitution in the correct option, *Give it to me*.

There is a consistent difference between the performance of Queensland Year 5 boys and girls on punctuation items. While 81% of Queensland students correctly answered item 32, which required students to identify the correct use of an exclamation mark, 10% more girls than boys were able to do so. Identifying the correct capitalisation of three groups of proper nouns, the names of a river, a lake and a city, was correctly answered by 12% more girls than boys. Errors by boys were spread evenly across all incorrect options in this item.

There were three items testing the use of an apostrophe of contraction. Over 75% of students answered item 36 correctly. This item tested knowledge of the apostrophe of contraction with a single word and with the inclusion or placement of the apostrophe the only variation in the options (*haven't*, *have'nt* and *hav'ent*). The other two items that tested understanding of this type of apostrophe, items 44 and 46, both required students to identify the correct use within one of four sentence options. When asked to apply their knowledge in this way the number of students able to do so was approximately 50% on both items. On each of these three items boys' performance was between 6% and 8% lower than that of the girls.

A comparison of the performance on items 34 and 49, both of which required the punctuation of two separate simple sentences, gives some insight into the complexities of this skill. While item 34 involved two very basic sentences with a simple subject, verb and object construction, item 49 required students to recognise more complex subjects, i.e. *The man next door ...* and *Breeding birds ...* and to discriminate between two different pairs of options. To answer it correctly, students needed to draw on their knowledge of sentence structure, including subordinate clauses, and punctuation. The percentage correct falls from over 73.3% for item 34 to just over 32% for item 49. This difference shows the need to continually revise sentence boundary punctuation as new sentence structures are introduced. As students experiment with increasing the number of clauses in sentences and changing the order of clauses, they often need to first consider whether or not they have included a main (independent) clause. They can then check their punctuation of sentence boundaries. This task can be taught in modelled proofreading activities.

## Implications for teaching

The language of grammar needs to be taught as a tool rather than an end. To manage these items, students need to understand the metalanguage, and use their proofreading skills. Although the questions are categorised as grammar and punctuation, many of these questions require the close reading required for proofreading. This skill is necessary for many items and should be taught in authentic writing classroom activities.

Using small selections of text crafted by professional writers to demonstrate how aspects of grammar are used to craft meaning and guide the associations made is a productive way of teaching both grammar and punctuation. During reading, the grammatical techniques used by an author can be discussed and then used as a model for students to mimic and then to adapt and innovate in their own writing.

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## Writing task sample

Year 5

<sup>The "Burglary" Law</sup>  
When someone breaks into your house and robs you, it can be way too easy for them to escape. When they escape, it's hard to locate and find them. This can be a major problem. There are several ways to solve this, and I'm going to list a few.

One way to solve the issue is to lay a hardly visible and fine powder on the outside of your windows and doors. This way, police can track the person by their fingerprint. It will be so much easier to find them and bring them to justice. Make it so that everyone has to use this powder to upgrade the burglary law.

Another, probably, better, way is to have a code you have to speak to open the door from the outside. This way, a burglar would be forced to get into the house from a window. This causes much more noise so that you can wake up and call the police or catch the crook on camera or video. If engineers and architects designed this into every house, it could save many people from being robbed. It could be passed down as law and save peoples belongings and if it's drastic, their lives. If you combined it with the powder technique, they may not break in at all!

There is another way that is called the burglary alarm. There is already one in place, but if law was passed to have very good, flawless burglar alarm, it could save people's lives. If a door's opens when it's armed, "BEEP BEEP BEEP." If a window's broken or too much movement is detected, same thing. The alarm could instantly contact the police and have them on the way. If it was law to have this intensified alarm, it could save lives and stop people from being robbed.

I hope you now see why I think the "Burglary" law should be intensified for the good of all people. Also if someone was caught robbing, the punishment should be harsher. If you combined all the add-ons for this law, it would be practically impossible to rob someone. I hope you see my points, and agree with me. A reason I feel strongly about this is because my TV was stolen once and the crooks weren't caught. If we had a better law for it, they would've been caught and brought to justice!

#BetterBurglaryLaw!

## Year 5

<b>Audience</b>	<b>4</b>
Writer makes the case for changes to the burglary laws by providing a range of modifications to an existing law. While there is good development of the argument within the body, the issue being argued is not made clear to the reader until the final paragraph. The personal example to demonstrate the writer's passion for the changes is effective.	
<b>Text structure</b>	<b>3</b>
The introduction leads the reader into the topic of the text. The changes to the burglary laws are developed in the body paragraphs. A good link is made between the arguments in paragraphs two and three. Conclusion pulls together key ideas, makes a clear statement of the law to be changed, gives a personal reason for the writer's commitment to the need for the change.	
<b>Ideas</b>	<b>4</b>
The three improvements to the existing law are acceptable as 'on topic' for this stimulus. Each is developed in a logical and reasoned manner and contributes to the writer's desire to improve the burglary laws.	
<b>Persuasive devices</b>	<b>3</b>
The writer uses several effective persuasive devices including: appealing to the reader's values; developing cause and effect relationships between actions; emotive language; strong modality for emphasis; and personal anecdote.	
<b>Vocabulary</b>	<b>4</b>
Mostly effective use of precise vocabulary throughout the text.	
<b>Cohesion</b>	<b>3</b>
Controlled use of some cohesive devices. Text connectives effectively link three body paragraphs. Mostly basic conjunctions used. Pronoun referencing is mostly correct. Tracking references to <i>it</i> and <i>this</i> are sometimes difficult.	
<b>Paragraphing</b>	<b>2</b>
Each paragraph contains one idea with some development of the idea within the paragraph. Each body paragraph has a topic sentence and some development of the ideas.	
<b>Sentence structure</b>	<b>4</b>
Most simple, compound and complex sentences are correct. Writer demonstrates some variety of elaboration using words, phrases and clauses.	
<b>Punctuation</b>	<b>4</b>
All sentence boundary punctuation correct. Correct use of commas, inverted commas and contraction apostrophes.	
<b>Spelling</b>	<b>6</b>
All spelling correct with enough difficult and challenging words.	

# Reading

## Results and item descriptions

The percentage columns give the proportion of correct answers (facility rates). These results are based on provisional data.

Item no.	Answer	Qld%	Aust%	Description
On your bike! (Informative)				
1	A	95.8	95.8	Infers the main idea.
2	B	90.8	91.3	Locates directly stated information.
3	C	85.5	86.6	Infers the logical action required.
4	B	81.7	80.7	Locates directly stated information.
5	B	95.1	95.2	Locates directly stated information.
6	A	56.1	56.1	Integrates information to infer a key idea.
Geronimo Zero (Informative)				
7	D	73.1	73.6	Interprets directly stated information.
8	C	72.6	73.3	Integrates information to infer a movement.
9	A	87.6	88.3	Interprets directly stated print and visual information.
10	C	93.4	93.5	Locates directly stated information.
11	A	91.5	92.4	Interprets directly stated information.
12	B	74.5	76.3	Interprets persuasive language in an advertisement.
Trumpet troubles				
13	D	33.9	36	Infers the mood of the setting of a story.
14	B	42.8	43.1	Interprets the feelings of a character.
15	D	73.2	75.2	Interprets directly stated information.
16	B	79.8	81.9	Interprets directly stated information.
17	C	74.7	76.5	Interprets directly stated information.
18	C	79.1	79.5	Interprets the effect of an exclamation.
19	deluge	22.7	23.7	Interprets vocabulary — <i>deluge</i> .
Brahminy Kite (Poem)				
20	A	57	60.3	Identifies the purpose of a section of a poem.
21	D	62.7	62.9	Interprets information to make an inference.
22	C	75.8	77.4	Identifies the purpose of the position of a key word.
23	D	40.1	40.9	Interprets metaphoric vocabulary to make an inference.
24	*	20.6	18.6	Interprets and translates directly stated information.



Item no.	Answer	Qld%	Aust%	Description
Food miles (Informative)				
25	A	68.2	70.7	Locates and interprets information.
26	A	30.4	32	Identifies the purpose of the introduction to a blog.
27	C	56.1	58.7	Integrates information to make an inference.
28	A	59.6	63.7	Identifies the time-ordering convention used in a blog.
29	C	44.1	43.7	Recognises the effect of statements of agreement in a blog.
30	D	35.1	35.6	Interprets information presented in an argument.
31	D	25.6	27.3	Infers the meaning of a sentence ending in the adverb <i>too</i> .
Adventure by moonlight (Narrative)				
32	5, 3, 1, 4, 2	18	19.6	Interprets the sequence of events.
33	D	47.2	49.5	Infers the reason for a character's behaviour.
34	D	55.5	56	Interprets the metaphoric use of the word <i>snaked</i> .
35	C	37.8	39	Integrates information to infer the meaning of the word <i>derelict</i> .
36	B	36.2	36.6	Identifies the referent of a pronoun.
37	A	57	57.7	Interprets the meaning of a description to make an inference.
38	B	38.5	41.3	Infers the mood of a story.

#### \* For item 24

Responses which stated that the leafhopper dares not jump on leaves or to leaves OR referenced movement were marked **correct**.

- The leafhopper dares not live up to its name by hopping from leaf to leaf
- The leafhopper dares not/is not game to (is too scared to) hop/jump.
- move or any general reference to movement

Responses which directly copied/quoted, were vague, inaccurate — did not state that the leafhopper dares not hop or move from leaf to leaf were marked **incorrect**

- draw attention to itself
- fulfil its name
- It doesn't stay on the ground.

## Year 5 Reading: Key messages

### Performance

Year 5 students in Queensland answered most literal questions with a high degree of accuracy, with results similar to those nationally. Literal questions are those where a reader has to locate and understand only what is written in the text. Only one literal item (4) had a facility rate below 90%. Students were required to locate a directly stated piece of information which appeared to lead them to Step 2 of a procedure, but which then required them to read the information in the step before to find the answer. This involved problem solving, which may account for the lower facility rate. Persistence and location-finding strategies are important reading skills that some students may need to practise.

More than 70% of students answered most inferential questions related to the procedural text *On your bike!*, the poster *Geronimo Zero* and the narrative *Trumpet trouble*. The only text-based inference that caused students concern in these three texts was item 6. This item required students to integrate information in a paragraph. Student performance varied on text-based inferential questions related to the other stimulus texts.

Year 5 students found the interpretation of figurative language somewhat difficult, as seen in item 24 of the *Brahminy Kite* unit, where students needed to be able to interpret *fulfil his name* (21%). The narrative *Adventure by moonlight* also required students to interpret figurative language — *snaked across the path*. The result here was slightly better — 55% of students could do this. A good understanding of descriptive language was necessary to answer text-based inferences in this unit, items 32, 33, 34, 35, and the context-based inference in item 37. Comprehending *Adventure by moonlight* requires readers to visualise the descriptions of the places the children walked and what they saw as they walked. The mental images must be created directly from the descriptions given in the stimulus.

Students needed to integrate information from the text with their knowledge of language, texts and the world to make context-based inferences. Context-based inferences remain difficult for students to answer correctly. Yet in item 37 well over half of the Queensland Year 5 students were able to make the link between *inscriptions covered in moss* and neglect of the gravestones. In the poem *Brahminy Kite*, over 70% of students demonstrated an understanding of the writer's visual representation of the word *PLUNGES* (item 22), where the word ran down the page. Performance on the following item almost halved. To answer the item, 23, correctly, students had to interpret and synthesise literal descriptions and figurative language to infer an emotional state, causing the significant drop in performance.

*Eco Warrior*, a representation of an online discussion, proved quite difficult for many students. Many of the items required students to draw on their knowledge of the conventions and devices of this as online text. Item 31, with performance under 30%, demonstrates the need for students to understand the subtle differences in meaning between different language choices. *Eco warrior* says *These things damage the environment too*, referring to tractors, fertilisers and pesticides. Yet most students, including many of the more able readers, chose option C, *pesticides and fertilisers* as being a more significant point in the author's argument.

Being able to track the complex links in more sophisticated narratives is something that Year 5 students are still learning. Item 19, where students had to write their answer, required them to demonstrate their understanding of the word *deluge* in paragraph three by linking it back to the description of heavy rain in paragraph one (*pouring rain, noisy and relentless like factory machinery*). Though only 4% of Queensland Year 5 students did not write anything in response to this item, only 23% were able to make the link between the description and the word *deluge*. This may indicate difficulty with vocabulary and cohesion.

## Implications for teaching

To improve comprehension, students need on-going teaching, practise and opportunities to apply their understanding of figurative language, particularly in narrative and other imaginative texts. Students who find integrating ideas difficult may benefit from identifying the logical links between ideas in texts. Words and word groups may have meaning links that run through a paragraph or across paragraphs or they may be how ideas are connected through the conjunctions and text connectives. Asking students to use references from a text to justify answers to comprehension questions may assist those who go outside the text when asked to make an inference.

Please refer to SunLANDA for a detailed analysis of individual test items, including teaching ideas designed to assist with the development of the understanding and skills required by each item. SunLANDA is available to all schools on the QCAA website. Additionally, SunLANDA materials are available to Education Queensland schools through *OneSchool*.

# Year 5 Numeracy

## Results and item descriptions

The numeracy strands are abbreviated as follows: Algebra, function and pattern (AFP); Measurement, chance and data (MCD); Number (N); Space (S). All items are worth one score point.

The percentage columns give the proportion of correct answers (facility rates).

These results are based on provisional data.

Item	Strand	Answer	Qld%	Aust%	Description
1	AFP	C	93.6	94.8	Continues a number pattern.
2	MCD	D	93.6	94.2	Interprets tally marks represented in a table.
3	N	D	90.3	92.2	Calculates the total of three numbers.
4	MCD	D	86.8	88.4	Matches a written time to a digital representation.
5	AFP	D	82.7	84.3	Interprets a simple algebraic relationship.
6	S	B	84.9	86.5	Solves a problem involving the number of edges in a cube.
7	N	B	79	81.2	Solves a division problem involving a remainder.
8	S	C	86.4	88.6	Distinguishes between a pyramid and a prism.
9	S	B	80.3	79.6	Recognises an object from a different viewpoint.
10	N	D	80.1	78.7	Recognises the value of each digit in 4-digit numbers.
11	N	C	71.9	74	Uses reasoning to position a number on a number line.
12	MCD	A	76.6	75.8	Uses whole and half-shaded squares to compare the areas of shapes.
13	N	B	68.3	69.1	Solves a money problem using addition or subtraction.
14	N	C	65.8	69	Solves a word problem involving division.
15	MCD	A	62.9	63.7	Interprets and matches data in a table to a line graph.
16	S	A	56.1	57.5	Identifies the reverse view of a complex shape.
17	MCD	C	62.2	63.6	Interprets a calendar to solve a time problem.
18	S	A	63.6	63.4	Identifies a missing piece in a puzzle.
19	S	A	54.5	57.1	Visualises the shape that results from folding and cutting.
20	AFP	D	44.4	46.2	Continues a visual pattern to identify a future term.
21	MCD	C	65.3	67.3	Identifies the number of millilitres in half a litre.
22	MCD	C	45.4	47.8	Identifies the result of transformations.
23	S	D	46.3	47.8	Recognises the shape made from overlapping shapes.
24	S	A	63.4	62.9	Identifies the largest angle in a diagram.
25	MCD	B	35.8	38.1	Matches results in a graph to the spinner most likely to produce them.

Item	Strand	Answer	Qld%	Aust%	Description
26	N	D	45.3	44.3	Identifies the fraction that best matches the shaded part of a circle.
27	AFP	5	33.5	38.9	Calculates the unknown divisor in a number sentence.
28	MCD	D	26.3	27.5	Interprets unmarked graduations on a scale.
29	N	879	37.1	41.1	Uses place value and addition to solve a number problem.
30	MCD	A	34.4	35	Interprets data in a graph to calculate a value.
31	N	600	28	31.1	Solves a problem involving proportional reasoning.
32	N	D	38.3	32	Matches different representations of the same decimal number.
33	S	A	23.3	25.6	Follows directions on a street map.
34	AFP	16	20.5	24.2	Solves a problem using proportional reasoning.
35	MCD	20	16.8	19	Calculates an unknown measure using information given in a diagram.
36	N	56	17.6	20.8	Calculates a missing value in a number sentence.
37	MCD	23:44	12.3	15	Solves a subtraction problem involving minutes and seconds.
38	S	24	15.7	17.9	Interprets a diagram to calculate the total number of faces on three objects.
39	N	189	12.6	14.8	Solves a written measurement problem involving calculating with decimal numbers.
40	S	10	10	10.4	Visualises a complex construction of cubes from three viewpoints to calculate the number of cubes used.

## Year 5 Numeracy: Key messages

### Performance

The Numeracy paper each year tests items from across the strands of Numeracy. The number of Queensland students answering the items correctly ranged from 93.6% for the first item through to 10% for the last item. Over half the items tested were answered correctly by more than 50% of students. The types of numeracy skills demonstrated by more than 80% of Year 5 students included:

- recognising the value of each digit in 4-digit numbers and solving division problems involving a remainder (Number)
- interpreting simple number relationships (Algebra, function and pattern)
- identifying the number of edges in objects, knowing the difference between a pyramid and a prism and recognising objects from different viewpoints (Space)
- reading digital time (Measurement).

The more challenging items are generally situated later in the paper. Some of these more difficult items were answered correctly by less than 20% of Year 5 students. Harder items are designed to differentiate student performance. They provide opportunities for higher performing students to show how they can solve more complex problems. For example, the multistep problems draw content from across the strands of numeracy and can give teachers an idea of how well students at this year level can apply their knowledge and skills in different contexts and situations.

Queensland students clearly outperformed the national cohort on item 32. This item was answered correctly by 38.3% in Queensland compared with 32% nationally. Decimal place value is an area of mathematics notoriously difficult for this age group. Queensland's result is particularly interesting and teachers may wish to check their own data against this result to determine how their school matched up.

There were some harder items where Queensland Year 5 students were more than 3% below the national results. These were items 27, 29, 31, 34 and 36. Although they were challenging items, the results suggest that teachers may want to reflect on how they are providing instruction and support for these numeracy concepts. Common to these items are the following:

- applying the inverse operation, both for addition/subtraction and for multiplication/division, (items 27 and 36)
- using multiplicative thinking to solve problems involving proportion (items 31 and 34).

For example, item 27, a division problem with a missing divisor, required the application of the inverse relationship  $200 \div \square = 40$ .

Students needed to use the extension number fact,  $40 \times 5 = 200$  by recalling  $4 \times 5 = 20$ , and then applying the inverse relationship between multiplication and division.

This item required a constructed response. Each student's incorrect response is reported in the class report. Teachers may find these incorrect responses valuable to help determine students' incorrect reasonings. Common errors seen across the state included answers of 50, 20, 4 and 80.

Item 31 tested a simple form of proportional reasoning. The item stated that 400 grams of flour would make 24 cupcakes. Students needed to find out how much flour would be needed for 36 cupcakes. There are many ways of solving this problem. One way would be to draw on multiplicative thinking. Students could divide and multiply to find the amount of flour.

For example, students could:

- divide 400 grams and 24 cupcakes by 4. They would then know how many cupcakes can be made with 100 grams
- halve 400 grams and 24 cupcakes. They would then know how many cupcakes 200 grams of flour would make. They could work with this value or continue to halve to find how many cupcakes can be made with 100 grams of flour
- recall the four or six times tables, as the numbers used in this item are all multiples of four or six.

Once they know how many cupcakes are made with 100 grams, they can multiply this value to find the amount of flour needed for 36 cupcakes. Incorrect responses across the state included 500, 800, 412 and 700.

Item 29 was particularly challenging for Queensland students. The language and layout of this item may have contributed to its difficulty. This item tested place value and addition and used a context which included number cards. Although students have seen these types of problems before, this particular item required students to use these numbers and incorporate an addition symbol and equals sign to create the largest total. Many of the errors demonstrated that a large number of students ignored the term 'total' and created the largest number using the four cards.

This item was also tested in Year 3 and proved to be very difficult, with a facility rate of 9.5% in Queensland and 12.7% nationally. Some of the errors made by Year 3 students are still being made by Year 5 students. Teachers should review the errors made by their students. It may reveal more of an issue with the comprehension of the item rather than the numeracy concepts tested.

## Implications for teaching

This year there were 10 items testing computations, five involving addition and subtraction and five involving multiplication and division.

Computations, in particular missing-part questions where students need to apply an inverse, were problematic for many Queensland Year 5 students. Often students do not know what to do to solve these types of problems. They may not recognise the context as an addition/subtraction or multiplication/division situation. They may not know how to solve computations that involve regrouping or renaming. This is evident in the incorrect responses generated. It is very common to see responses where students have clearly reversed digits to avoid regrouping. For example, in item 13 where students had to subtract \$79 from \$145, nearly 10% of students selected option C which provided a response where the digits in the *ones* place were reversed to avoid regrouping from the *tens*. Another 12% of students subtracted the 9 ones from the 15 ones but did not *rename* the *tens*, so answered \$76. The same results were found in the incorrect responses for item 39.

For multiplication and division problems, students may be helped by being taught how to structure their thinking. For multiplication problems, Jorgensen and Dole (2011) suggest students be shown how to recognise a type of multiplication problem. They categorise multiplication problems into four basic types:

1. Grouping
2. Rate
3. Scalar
4. Cross-product.

Giving students an opportunity to recognise and sort a range of multiplication situations can help with matching suitable strategies and working towards a solution.

Division problems can be classified as either *partition* or *quotition*. Partition requires students to share out a given amount, and quotition to identify how many groups a particular amount will make. Item 14 was an example of a quotition division. Students needed to work out how many groups of 8 pegs could be made from a total of 100 pegs.

Teachers may wish to consider how their students performed on space items that required visualising. This year there were eight questions testing students' ability to imagine a change or transformation to a shape or group of objects. For the most part Queensland students performed at a similar level to the rest of the country on these items. Teachers may wish to incorporate these types of activities into their mathematics programs as they can help students with later concepts such as tessellations, 3-D structures, designs and patterns.

It should be remembered that the comments made here are based on the overall state results. What is observed across the state may not be relevant to an individual school. These implications for teaching should be viewed as suggestions for schools to consider in planning future mathematics programs.

## Reference

Jorgensen, R & Dole, S 2011, *Teaching Mathematics in Primary Schools*, 2nd edn, Allen & Unwin, Crows Nest, NSW.

Please refer to SunLANDA for a detailed analysis of individual test items, including teaching ideas designed to assist with the development of the understanding and skills required by each item. SunLANDA is available to all schools on the QCAA website. Additionally, SunLANDA materials are available to Education Queensland schools through *OneSchool*.

# Year 7 Literacy

## Language conventions

### Spelling — Results and item descriptions

The percentage columns give the proportion of correct answers (facility rate). These results are based on provisional data.

Item	Answer	Qld%	Aust%	Description
Proofreading – error identified				
1	automatic (autamatic)	89.1	89.4	Correctly spells a word with the etymological element <i>auto-</i> .
2	tadpoles (taddpoles)	86.7	88.4	Correctly spells a word with two different consonants <i>d/p</i> at the syllable juncture
3	warmest (warmist)	83	86	Correctly spells a word with the superlative ending <i>-est</i> .
4	trouble (truble)	81.1	84.1	Correctly spells a word with the digraph <i>-ou</i> in the first syllable.
5	dirtier (dirtyer)	77.7	78.4	Correctly spells a word requiring a change to the base word ( <i>y</i> to <i>i</i> ) to form the comparative adjective.
6	lyrics (lirics)	71.9	77.4	Correctly spells a word with the short vowel ( <i>i</i> ) spelt with a <i>y</i> in the first syllable.
7	earn (urn)	66.4	71.1	Correctly spells a less common homophone.
8	impression (impresion)	69.3	72.5	Correctly spells a word with the doublet <i>s/s</i> at the syllable juncture.
9	faulty (fawlt)	61.2	65.7	Correctly spells a word with the vowel digraph <i>-au</i> .
10	alligators (alligaters)	49.7	51.7	Correctly spells a multisyllable word with a schwa ( <i>o</i> ) in the final unstressed syllable.
11	yawning (yorning)	49.5	56	Correctly spells a word with the vowel digraph <i>-aw</i> in the base word.
12	anchor (ankor)	35.1	37.4	Correctly spells a word with the digraph <i>ch-</i> .
13	genius (genious)	28.8	35.6	Correctly spells a multisyllable word with a schwa ( <i>u</i> ) in the final unstressed syllable.
14	pneumonia (neumonia)	12	14.4	Correctly spells a multisyllable word with the silent initial letter <i>p</i> .
15	depot (deppo)	11.7	13.3	Correctly spells a word with French etymology.

Item	Answer	Qld%	Aust%	Description
Proofreading – error unidentified				
16	format (formatt)	83	86.7	Identifies an error, then correctly spells a word ending with <i>t</i> .
17	bridge (brige)	72.1	74.7	Identifies an error, then correctly spells a word ending in <i>-dge</i> .
18	wheelbarrow (weelbarrow)	62.6	65.8	Identifies an error, then correctly spells a compound word beginning with the consonant digraph <i>wh-</i> .
19	journals (jurnals)	60.6	63	Identifies an error, then correctly spells a word with the <i>r</i> -influenced long vowel digraph <i>-ou</i> .
20	sausage (sossage)	46	49.3	Identifies errors, then correctly spells a word with the digraph <i>-au</i> and the single <i>s</i> at the syllable juncture.
21	consumption (consumtion)	34.3	36.1	Identifies an error, then correctly spells a word where <i>p</i> is added to the base before adding the noun-forming suffix <i>-tion</i> .
22	disposable (disposible)	31.4	33.9	Identifies an error, then correctly spells a word where the addition of the suffix <i>-able</i> requires an <i>e</i> -drop.
23	antiseptic (anteseptic)	46.2	44.9	Identifies an error, then correctly spells a word with the prefix <i>anti-</i> .
24	spinach (spinich)	22.5	29.1	Identifies an error, then correctly spells a word with the schwa ( <i>a</i> ) in the unstressed syllable.
25	aggressive (aggresive)	27	28.5	Identifies an error, then correctly spells a multisyllable word with the doublet <i>s/s</i> at a syllable juncture.
26	amphibious (amphibeous)	29.8	30.3	Identifies an error, then correctly spells a multisyllable word ending with <i>-ious</i> .
27	exercises (excercises)	19.9	22.9	Identifies an error, then correctly spells a word beginning <i>ex-</i> .
28	embarrassed (embarassed)	14.8	17	Identifies an error, then correctly spells a multisyllable word with the doublet <i>r/r</i> at a syllable juncture.
29	bustling (bussling)	8.8	10.7	Identifies an error, then correctly spells a word with the silent <i>t</i> in the base word <i>bustle</i> .
30	noisily (noisely)	7.9	8.6	Identifies an error, then correctly spells a word where adding the suffix <i>-ly</i> requires a change to the base word ( <i>y</i> to <i>i</i> ).

## Year 7 Spelling: Key messages

### Performance

Overall, Queensland Year 7 students are performing close to the national average in all the spelling items except item 23 (*antiseptic*). The most noticeable difference in performance was for the words *genius* and *spinach*. The paper had 30 items. In 15 of these, the error was identified and the students were asked to spell the word correctly. The remaining 15 items required a two-step process. Students had to first identify the error and then spell it correctly. They found the second set much more difficult than the first. In the first set of items, four had facility rates of less than 40% whereas the second set had nine items with a facility rate of less than 40%.



Omission rates, that is the number of students who chose not to attempt the item, were higher in the second set, especially in items 21 to 30 which averaged an omission rate of 7%. The highest omission rates were for items 29 and 30. The omission rates, together with the common error patterns, showed that many students had difficulty recognising the meaning of both words, *bustling* and *noisily*, from the given context. In addition, there was a low recognition rate of the silent *-t* in *bustle* and the change of *y* to *i* when the suffix *-ly* is added to the base word *noisy*.

Girls were consistently more able than boys in both item sets, with the exception of the word *depot*. The greatest gender gap, of 13%, occurred in item 8 with the word *impression*. The errors for this word suggest that many students seemed unclear that the base word was *impress* and that the noun-forming affix *-ion* was added. Students also failed to recognise the base words *fault* and *dispose* in item 9 (*faulty*) and item 22 (*disposable*).

This test assessed students' **phonological knowledge**. For example, to spell *anchor*, it helps to know that *ch* is a likely spelling for the hard *c* sound in the word. Words with high facility rates had regular pronunciation, such as *automatic*, *tadpole* and *format*, or were familiar to students, such as *bridge*, *lyrics* and the less common homophone *earn*. Students had mixed success when selecting the correct letter pattern for the vowel in some words. The *r*-influenced long vowel in *journal*, item 19, had a reasonably high facility rate of 61%. In item 4 there was a high facility rate for the word *trouble*, which required the long digraph *ou*, whereas item 11 (*yawning*) and item 20 (*sausage*) had lower facility rates of 50% and 46% respectively.

The test also targeted **word-function and word-meaning knowledge**. The word *warmest*, which required grammatical knowledge of the superlative ending *-est*, also had a high facility rate of 83%. Many words follow a similar pattern when a suffix is added. A low facility rate of 34% occurred with the word *consumption*, where a *-p* is added to the base word, *consume*, after dropping the *-e* and adding the noun-forming suffix *-tion*. Common error patterns showed that students often did not recognise the convention that *-able* is generally added to a base word such as in *disposable* and *-ible* is added to a root, e.g. *responsible*, *horrible*, *edible*.

Finally, the test targeted **word-history knowledge**, the highest level of the spelling system explained below. Low facility rates occurred in words of Latin and Greek origins, such as item 4 (*pneumonia*, 12%) and item 27 (*exercises*, 20%), and also in words of French origin, such as item 15 (*depot*, 12%) and item 28 (*embarrassed*, 15%). Students need to learn about the impact of the origins of the words on pronunciation and spelling. For example, a common error in item 13, *genius*, was to end it with the adjectival suffix ending *-ous* instead of the common Latin noun ending *-us*. The subject-specific word in item 14 (*amphibious*) needs the adjectival suffix, *-ous* added to *amphibio* (*amphi*: both sides plus *bios*: life).

## Implications for teaching

Rather than working with random lists of words, it is important that teachers give students a clear explanation of the spelling system to show it is systematic, not random. The layers in the system include:

- a. letter and syllable patterns
- b. pronunciation and stress
- c. the function of words and the conventions for adding affixes and inflectional endings
- d. word meaning and etymology.

This understanding should help students avoid an over-reliance on the technique of sounding out, at a simple level of commonsense where the individual sounds of the word are imagined as spoken and then assigned letters which might match that sound.

Teaching should focus on engaging boys, as they were less able than girls at spelling all words except item 15, *depot*. Boys usually respond to the strong logic inherent in the spelling system if it is explained. Teaching the spelling of subject-specific vocabulary and building the associations between such vocabulary is another way to help boys see both the logic and the usefulness of correct spelling. Linking the teaching of spelling to the development of academic and wider vocabulary generally will assist learning overall.

Students should learn the common spelling patterns that occur so that they can predict the spelling of a word that they may not have come across before. Students can be made aware of these patterns by looking at groups of words which conform to it. Students should practise the technique of *strip down* and *build up* in order to locate the base word before it is impacted upon by prefixes and inflectional endings.

Reading should expose students to words of Greek, Latin or European origin. It is important that they learn common Latin and Greek roots, prefixes (*auto* and *anti*) and suffixes which affect morphology and word function in the sentence and be alerted to unusual pronunciation of words as a result of their etymology.

Students need to be taught strategies for proofreading and to apply these in regular proofreading exercises using authentic texts.

### Developing test skills

A study of common error patterns reveals that often students correct the incorrect letter in the word but then go on to change another aspect of the word so that it is incorrect. They then receive no credit for correcting the target error. For example, one of the common errors for the spelling of *alligators* was *aligators*. In this error, the *-er* has been corrected to *-or* but a new error has been introduced. In correcting the spelling of *aggressive*, a common error was for students to correctly double the *s* but to then introduce a new error to write *agressive*. In correcting the spelling of *wheelbarrow*, students produced the incorrect spelling, *wheelburrow*, where the *h* has been added correctly but a new error introduced in the spelling of *barrow*.

Students need to develop the skills to be able to cope with the distracting effect of seeing a target word in close proximity to words that are often misspelt but, as in the case of item 30, are not. In this item, 33% of students selected a word other than the target to misspell the word *stony* as *stoney* and in item 28, 6% of students selected and misspelt the correct word *received* as *recieved*.

Please refer to SunLANDA for a detailed analysis of individual test items, including teaching ideas to assist with the development of the skills required by each item. SunLANDA is available to all schools on the QCAA website. Additionally, SunLANDA materials are available to Education Queensland schools through *OneSchool*.

## Grammar and punctuation — Results and item descriptions

The percentage columns give the relative proportion of correct answers (facility rates). These results are based on provisional data.

Item	Answer	Qld%	Aust%	Description
31	B	96.1	96.4	Identifies the correct modal adjective, <i>possible</i> .
32	A	95.8	95.9	Identifies the correct conjunction of time.
33	A	91.5	91.5	Identifies the correct auxiliary verb for past perfect tense.
34	B	89.7	91.1	Identifies the correct subject-verb agreement for a compound subject.

Item	Answer	Qld%	Aust%	Description
35	B	87.8	87.1	Identifies the function of an adverbial phrase.
36	A	81.6	83.4	Identifies the correct contraction attached to a relative pronoun.
37	B	80.4	81.1	Identifies the correct pronoun referencing.
38	D	74.3	76.8	Identifies the correct main clause in a complex sentence.
39	A	76.6	77.5	Identifies the correct use of the adverb <i>well</i> .
40	B	69.3	71.5	Identifies the correct pronoun reference in a short text.
41	C	70	70.8	Identifies two separate sentences where sentence boundary punctuation is missing.
42	C	76.9	76.1	Identifies the correct conjunctions required to join clauses.
43	D	71.6	71.4	Identifies the compound sentence containing two action verbs.
44	B	62.9	63.5	Identifies a complex sentence with correctly referenced pronouns.
45	A	58.7	59.7	Identifies the correct use of clause and list commas.
46	D	60.2	53.5	Identifies a compound sentence.
47	D	51	54.1	Identifies the correct use of a comma before a poem title.
48	D	57	58.4	Identifies an adjective in participial form.
49	A	49.9	48.7	Identifies an apostrophe of possession.
50	D	48.1	48.9	Identifies the complex sentence which correctly combines information from three short sentences.
51	A	46.3	47.9	Interprets a time sequence using the grammatical signals.
52	D	41.5	42.5	Identifies the correct use of a colon.
53	C	41.1	42.7	Identifies the correct use of capital letters for proper nouns.
54	C	42.6	44	Identifies an incorrectly punctuated sentence.
55	D	41.3	42.5	Identifies the correct clause to introduce a sentence.
56	C	31.2	33.4	Identifies the correct use of a hyphen to create a compound adjective.
57	D	31.2	32.6	Identifies the correct punctuation of direct and indirect speech.
58	B	10	9.1	Identifies the use of the correct objective pronoun.

## Year 7 Grammar and punctuation: Key messages

### Performance

The cohort answered the entry-level items 31 to 35 without difficulty. These do not challenge speakers of English as a first language. Less expected was the good performance of Queensland students, compared to the national average, on questions about grammatical metalanguage (the terms for words and sentences).

Despite this relatively good performance, students found application of this knowledge more difficult. In item 43, 30% of students answered incorrectly when asked to apply this knowledge to find *action verbs*, 43% could not find an *adjective*, item 48, and 40% could not find a *compound sentence*, item 46.

The facility rate was much higher when the questions did not use metalanguage. For example, item 35 asked students to identify a phrase showing *how an action is done*. Nearly 90% of students answered correctly.

Responses to items 41 and 51 show that close reading and re-reading the question is a fundamental skill of test taking. Item 41 asked which option *needs* to be written as two sentences, but 20% of students incorrectly chose the first option because it **could** be written as two sentences. On item 51, 45% of students could not identify *which event happened last* in a sentence. This tested knowledge of conjunctions and students needed to recognise how the conjunctions signalled the relationships between the clauses. It is a skill that is vital to good reading comprehension.

Items 38, 42, 45 and 50 all, in some way, involved knowledge of clauses and the conjunctions that specify the relationships between ideas and the punctuation, commas, that mark them out. The low facility rate on item 45 resulted from students' lack of knowledge of when to place a comma between a subordinate clause and a main clause.

The correct use of pronouns remains challenging. Many students also struggled to control the pronoun referencing. In items 40 and 44 students had to accurately relate the pronouns to the relevant nouns. While the facility rates for both these items indicated that around two-thirds of students manage this skill, so important to accurate comprehension and effective writing, the remaining students appear to struggle.

Only a small percentage of students answered item 58 correctly. This question tested the use of the pronoun *me* combined with another noun in a compound object. In this item, the correct construction — *The coach asked Tim and me to collect the bats* — was paralleled by a distracter that featured a commonly used and similar construction — *The coach asked Tim and I to collect the bats*. This option was attractive to some more able students.

Punctuation items generally required students to apply their knowledge of punctuation to more sophisticated examples, some of which required some application and persistence to answer correctly. Item 53 required knowledge of the conventions for capitalising proper nouns in a more adult sentence, while item 47 required familiarity with the convention of using a comma to separate a name from a phrase that introduces it. Girls outperformed boys on item 57, the punctuation of direct speech, which was an item that required both application and persistence.

## Implications for teaching

Some conventions, such as those for capitalisation (item 53) or hyphenation (item 56) or punctuating quotations (item 47), need to be explicitly taught. The 10% of students who got item 58 correct are likely to be those who have been taught the routine for checking each part of a multiple subject or object. For example, test each part of the subject. If *Me collected the bats* is wrong, so *Tim and me collected the bats* is also wrong.

Knowledge of conventions also comes from reading plenty of examples of standard English, which teachers can encourage and facilitate.

In lessons on test-taking skills, students can be shown how to:

- substitute options into blank spaces
- identify what kind of 'correctness' is being asked about
- re-read questions, paying attention when the question stem uses the word **not**
- respond when the question stem asks for the **incorrect** rather than the correct option.

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schools on the QCAA website. Additionally, SunLANDA materials are available to Education Queensland schools through *OneSchool*.

## Writing task sample

Year 7

TA-Teachers (primary school) The Students' Curse

In every city, every state and every country, there are buildings that ~~are~~ <sup>if</sup> you enter, you will leave with an unforgiving curse - homework. These buildings are primary schools. Children enter them... and return with the burden of completing work on a deadline. No-one wants children to be stressed, but they are. No-one wants ~~hard-working~~ <sup>teachers</sup> spending more and more hours with the malicious curse - but they are. No-one wants students grasping at time they thought they had - but they are. Undoubtedly, no-one wants the curse to exist. Yet it is still being handed out, each weekday at 3:00 PM. This needs to stop immediately. After this, the curse of home work will be no more.

Children are drowned with work at school, and that is admittedly understandable. They should be prepared for difficult careers they may strive for. But sending work ~~home~~ <sup>home</sup> - sweet,

cozy and loving homes - is absolutely outrageous. Every morning, children are told to climb out of the outstretched and <sup>welcoming</sup> arms of their warm beds and go to the prison for 7 hours. Once the bell rings, and they sprint home gleefully and full of ebullience, their parents <sup>grimly</sup> remind them of the curse. Then the students must struggle until midnight, when their parents force them to sleep and it starts all over again. The children have enough stress; they do not need homework!

You might be exploding with arguments and disagreements, saying children have enough free time and surely this won't cut into that, but that is certainly not true. All parents encourage their kids to complete after-school activities, including the following: ballet, boy/girl scouts, sport. These activities take up time, and the teachers don't help by handing out flyers to even more! You know the students don't have enough time for the curse, teachers. You don't even have enough time yourself!

You know as well as I do that homework is tough and unforgiving<sup>even for you!</sup>. While students are gasping for air under piles of essays and assignments you can't even breathe yourself; you're suffocated by the responsibility of marking a classroom of homework books. You have a life that ~~doesn't~~ involve teaching! So stop handing out the curse and get to living that life right now!

When the school bell rings,

homework (sometimes referred to students as 'The Students' Curse') is not helping anyone! Children are stressed, teachers can't breathe and there is not enough time. I am adamant the egregious and infamous curse should be eliminated. Anyone who thinks otherwise is evidently insane. Yet for some reason, you keep forcing homework upon innocent children! Put an end to the Students' Curse for the benefit of everyone. Ban homework today.

END OF TEST



## Year 7

<b>Audience</b>	<b>5</b>
Language choices throughout the text are chosen to appeal to the target audience. Writer consistently attempts to develop a relationship with the reader through the use of overstatement for humorous effect.	
<b>Text structure</b>	<b>4</b>
The opening paragraph introduces the issue, homework, in an interesting and effective manner. The writer's position is clear: This needs to stop. The body builds each point of argument using a variety of techniques. The conclusion reinforces the writer's main points and finishes with a strong final statement that clearly states the rule that needs changing, <i>Ban homework today</i> .	
<b>Ideas</b>	<b>4</b>
Ideas are elaborated and contribute effectively to the writer's position but do not have the crafting needed to score 5.	
<b>Persuasive devices</b>	<b>3</b>
Effective persuasive devices include tricolon for emphasis, acknowledgement of the audience values and needs to build the writer's case, some effective use of figurative language, including running the metaphor 'the curse' throughout the text. Some figurative language lacks effectiveness, e.g. <i>exploding with arguments and disagreement</i> .	
<b>Vocabulary</b>	<b>4</b>
Sustained and consistent attempts to use precise vocabulary. Some ineffective use keeps the text from scoring 5.	
<b>Cohesion</b>	<b>4</b>
A range of cohesive devices used throughout the text including repetition for effect, tricolons, variety of conjunction and text connectives, and strong lexical cohesion within paragraphs and across the text.	
<b>Paragraphing</b>	<b>3</b>
Paragraphs are deliberately structured to build the argument across the text.	
<b>Sentence structure</b>	<b>5</b>
Sentences are mostly correct. Effective use of statements, exclamations and commands and short simple sentences for effect. Control of some multiple clause sentences. Missing word in the clause, <i>sometimes referred to (by) students as ...</i> and a few overly long or immature sentence structures keep this text from scoring 6.	
<b>Punctuation</b>	<b>4</b>
Sentence boundary punctuation all correct. Shows control of apostrophes of contraction and possession, clause commas, semicolon, colon, brackets and dash. Unnecessary use of capital letters for PM.	
<b>Spelling</b>	<b>6</b>
All spelling correct. More than enough difficult and challenging words.	

# Reading

## Results and item descriptions

The percentage columns give the proportion of correct answers (facility rates). These results are based on provisional data.

Item	Answer	Qld%	Aust%	Description
Leeches (Informative)				
1	B	89.7	90.1	Locates directly stated information.
2	C	93.9	93.3	Interprets directly stated information to make an inference.
3	C	97.8	97.7	Locates directly stated information.
4	B	78.5	78.9	Interprets directly stated information.
5	A	92.2	92.8	Locates directly stated information.
6	B	79.9	80	Interprets directly stated information given in brackets.
Global bathtub (Informative)				
7	A	82.6	81.9	Interprets directly stated information.
8	C	91.9	92.2	Interprets directly stated information.
9	D	77	77.7	Interprets the key and visual information on a map.
10	B	87.7	88.6	Interprets directly stated information.
11	B	58.8	60.3	Interprets directly stated information.
12	B	27.7	28.9	Infers the intent of a concluding paragraph.
Brahminy Kite (Imaginative-Poem)				
13	A	65.6	67.1	Identifies the purpose of a section of a poem.
14	D	72	71.9	Interprets information to make an inference.
15	C	86	86.5	Identifies the purpose of the position of a key word.
16	D	60	59.6	Interprets metaphoric vocabulary to make an inference.
17	*	36.6	34.7	Interprets and translates directly stated information.
Food miles (Persuasive)				
18	A	82.8	83.8	Locates and interprets information.
19	A	46.9	48.5	Identifies the purpose of the introduction to a blog.
20	C	67.9	69.9	Integrates information to make an inference.
21	A	75.7	79.8	Identifies the time-ordering convention used in a blog.
22	C	52.1	51.8	Recognises the effect of statements of agreement in a blog.
23	D	47.6	48.1	Interprets information presented in an argument.
24	D	46	49.3	Infers the meaning of a sentence ending in the adverb <i>too</i> .

Item	Answer	Qld%	Aust%	Description
Outside the triangle (Imaginative)				
25	C	63.7	64	Infers the reason for a character's action.
26	A	78.4	79.8	Infers the reason for a character's action.
27	C	81.6	83.1	Infers a character's motivation.
28	A	26.6	28.6	Interprets information about a relationship between characters.
29	D	28.7	30.9	Infers the reason for a character's response.
30	D	34.5	35	Infers the theme of a narrative.
31	C	39.2	40.1	Identifies the shift in the direction of a narrative.
Animals and earthquakes (Persuasive)				
32	D	24.1	24.9	Interprets the significance of information given in brackets.
33	B, A, C	46.8	48.7	Links adjectives to relevant concepts.
34	B	61.9	63	Identifies the purpose of an example in persuasion.
35	D	42.2	42.5	Synthesises information to draw a conclusion.
36	C	37.8	40.4	Identifies the probable consequence of an action.
37	B	45.3	48	Evaluates the source of an author's credibility.
38	*	2	2.2	Compares tone across paragraphs.
Erik, the boat race, and the innovative propeller (Imaginative)				
39	*	21.1	20.8	Identifies the main idea of a story.
40	D	40.7	43.2	Infers the purpose of a narrative device.
41	D	37.7	39.7	Infers the purpose of foreshadowing.
42	A	40.5	42.7	Interprets events in a story.
43	B	45.6	46.4	Integrates information to infer meaning.
44	C	66.7	70.3	Infers the purpose of ellipsis in a story.
Square Kilometre Array (Informative)				
45	B	44.9	46.2	Interprets and integrates information.
46	C	44.3	46.3	Infers the effect of an exclamation mark on meaning.
47	A	41.9	45.9	Interprets directly stated information.
48	D	28.7	28.9	Interprets the meaning of subject specific vocabulary.
49	*	24.4	25.5	Infers the logical outcome of a scientific project.
50	A	51.3	54	Interprets the main purpose of a text.

**\* For item 17**

Responses which stated that the leafhopper dares not jump on leaves or to leaves OR referenced movement were marked **correct**.

- The leafhopper dares not live up to its name by hopping from leaf to leaf.
- The leafhopper dares not/is not game to (is too scared to) hop/jump.
- move or any general reference to movement

Responses which directly copied/quoted, were vague, inaccurate — did not state that the leafhopper dares not hop or move from leaf to leaf were marked **incorrect**.

- draw attention to itself
- fulfil its name
- It doesn't stay on the ground.

#### \* For item 38

**A correct response** referred to the descriptions in paragraph 6 as being more dismissive, humorous or anthropomorphic, having a more persuasive intent OR referred to the descriptions in paragraph 3 as being more objective. Where the difference was not explained, the comparative element must have been implied.

- Paragraph 3 is more objective and straightforward. Paragraph 6 is less.
- Paragraph 6 has a more persuasive tone/more ridiculing tone.
- In paragraph 3 the animals are just doing something. The second paragraph gives them funny human qualities.

**Incorrect responses** did not explain the difference in tone, or did not refer to tone.

- The animals in paragraph 6 are described to make their behaviour seem a bit ridiculous.
- They sound pretty funny in paragraph 6.
- The second paragraph uses adjectives, not verbs.

#### \* For item 39

**Correct responses** referred to the character's motivation being the achievement of the community's admiration/tolerance/inclusion/adulation/respect.

- The Helda 2's race performance will be witnessed by the whole community and he will be admired for it.
- Everyone will know he is a valuable member of the community.
- everyone's admiration
- a sense of belonging to the village

**Incorrect responses** only referred to the character's motivation to win the race, or change the propeller.

- a chance to boast in front of everyone
- confidence
- to design a faster boat

#### \* For item 49

**Correct responses** referred to computing, communications or manufacturing innovations OR international cooperation.

- It will encourage technical innovation.
- computing, communications and manufacturing innovations
- 50 times more sensitive
- collaboration between countries

**Responses marked as incorrect** either did not match elements listed above, or were vague.

- It will add to the global internet traffic.
- Radio-quietness is protected by law.
- investment
- the sheer size of the SKA

## Year 7 Reading: Key messages

### Performance

The 50 item NAPLAN Reading test was based on eight reading magazine units spanning the genres of information (3), persuasion (2), imaginative-narrative (2) and imaginative-description (one poem). Students performed well in the information units *Leeches* and *Global bathtub*, located early in the paper, but found the final unit, *Square Kilometre Array*, more challenging. Items based on *Leeches* and *Global bathtub* primarily required students to locate information in the text. The only item that required students to draw a broader conclusion (item 12 — *The last paragraph is intended as ...*), was completed much less successfully (facility rate 28%). Of the three imaginative units, *Brahminy Kite* (the poem) was better handled by students. Traditionally, boys' performance on poetry units has been consistently lower than the performance of girls, but the results were generally comparable in this case. However, in the narrative unit *Erik, the boat race and the innovative propeller*, a unit that would ostensibly suit male readers, girls were consistently stronger. This trend was also apparent in the other narrative unit *Outside the triangle*, where the gender difference averaged 6% across the 7 items.

Five test items required students to 'construct' a response, rather than identify a multiple-choice

option. This was a larger number than usual in the NAPLAN test. Facility rates for these items ranged from 47% (item 33, matching words with descriptions) to 2% (item 38, identifying difference in tone of two paragraphs). Though students generally do not handle these types of items well, the frequency of constructed-response items in the 2014 test may have had an even greater impact on overall performance. In item 38 for instance, 11% of students failed to even enter a response.

Higher-order items called on skills of analysis or synthesis. Item 30 required students to unpack the title's thematic metaphor. Both the question, and the options, had a higher level of abstraction in vocabulary, generating problems for students. The facility rate was only 34% for this item. Other higher-order items were structured in a more straightforward manner (e.g. item 19: What is the main purpose of *The issue* section?) and proved less difficult for students.

## Implications for teaching

Generally, Year 7 students demonstrated skills in locating information within a text, or translating information into a form that matched a correct multiple-choice option. Making inferences of a more complex nature is an area in which students could develop further. This step of moving from local understanding (a word, phrase, sentence) to a more global understanding (paragraph, sequence, whole text) is sometimes difficult. Strategies that may assist in this process include:

- emphasising reading the whole of text, not just single elements
- identifying key points, vocabulary, markers, anchors, and their interrelationship
- developing awareness of contextual factors that may contribute to the construction of meaning e.g. item 18 asks: *What is the main purpose of The issue section?* Knowledge of web pages and the associated conventions, recognition of the concept of 'issues' etc. assist the reader in determining a response from the options provided
- guided practice in using some/all the strategies above to define concepts such as theme, tone, main idea, purpose etc. Metacognitive sharing between teacher and class is an invaluable strategy in this regard.

Please refer to SunLANDA for a detailed analysis of individual test items, including teaching ideas to assist with the development of the skills required by each item. SunLANDA is available to all schools on the QCAA website. Additionally, SunLANDA materials are available to Education Queensland schools through *OneSchool*.

# Year 7 Numeracy

## Results and item descriptions

The numeracy strands are abbreviated as follows: Algebra, function and pattern (AFP); Measurement, chance and data (MCD); Number (N); Space (S). All items are worth one score point.

The percentage columns give the proportion of correct answers (facility rates). These results are based on provisional data.

### Calculator-allowed paper

Item	Strand	Answer	Qld%	Aust%	Description
1	N	A	90.2	91.1	Calculates the difference between two 6-digit numbers.
2	MCD	A	83.1	84.8	Locates two values in a table and calculates difference.
3	MCD	C	90.2	90	Reads the time from an analogue clock.
4	S	B	77.4	78.4	Identifies the pair of images that are out of order in a sequence.
5	MCD	B	74	74.8	Determines the most likely outcome from a simple event.
6	S	A	74.6	72.6	Identifies congruent triangles in a quadrilateral.
7	AFP	C	71.7	71.5	Interprets a numerical expression to identify the value of a term.
8	S	C	62.6	63.5	Identifies a pair of parallel lines.
9	N	A	65.4	66.1	Solves a division problem that involves rounding.
10	S	B	63.2	64.9	Identifies the correct directions for a given route on a map.
11	S	A	60.8	61.6	Solves a problem involving similar triangles and proportional reasoning.
12	S	D	66.4	65.7	Recognises different nets of a 3-D object.
13	N	C	56.6	54.7	Identifies a group of prime numbers.
14	N	C	46.3	47.9	Calculates the smallest number of coins needed to make a given total.
15	AFP	C	48.2	50.3	Uses algebraic reasoning, subtraction and division to solve a problem.
16	N	D	45.9	45.2	Identifies the number closest in value to the square of a decimal number.
17	MCD	B	45.3	45.4	Estimates to identify an angle of a given size.
18	S	A	47.2	49.3	Identifies an irregular hexagon.
19	MCD	B	37.5	39.3	Interprets a scale with uncommon graduations.
20	S	D	40.3	40.7	Calculates a distance using a map and scale.
21	AFP	A	41	41.7	Matches a word problem to an algebraic representation.

Item	Strand	Answer	Qld%	Aust%	Description
22	MCD	D	39	40.6	Calculates the arrival time given the departure time and durations.
23	AFP	81	28.3	28.3	Calculates a future term in a geometric pattern.
24	AFP	D	28.8	30.7	Substitutes into a given equation to solve a word problem.
25	N	79	22.1	23.7	Solves a multistep problem involving annual and monthly costs.
26	N	350	22.8	24.9	Solves a problem involving proportional reasoning.
27	MCD	22	18.8	20.2	Interprets the unmarked vertical scale on a column graph to solve a problem.
28	N	66	19.9	18.6	Solves a problem involving successive percentage increases.
29	S	36	12.5	12.5	Uses geometric reasoning to calculate an internal angle.
30	MCD	8	9.6	11.3	Solves a measurement problem involving the areas of rectangles and metric conversion.
31	N	25	8.7	9.6	Solves a multistep problem involving metric conversion and ratio.
32	N	D	8.6	10.9	Solves a multistep problem involving calculating equivalent fractions.

#### Non-calculator paper

Item	Strand	Answer	Qld%	Aust%	Description
1	AFP	B	81.1	82	Shares an amount of money proportionally.
2	MCD	B	88.4	87.4	Identifies a right angle.
3	N	B	79.7	79.3	Solves a money problem using addition or subtraction.
4	N	C	79.5	80.4	Solves a word problem involving division.
5	S	A	75.6	76.6	Identifies the top view of an object given the front and side views.
6	MCD	A	75.2	76.4	Interprets and matches data in a table to a line graph.
7	AFP	D	76.2	76.5	Identifies the number sequence that matches a given rule.
8	AFP	D	66.6	66.2	Continues a visual pattern to identify a future term.
9	MCD	C	74.2	74.3	Identifies the number of millilitres in half a litre.
10	S	A	66.7	67.3	Identifies a prism in a set of 3-D objects.
11	N	C	70.6	73.6	Uses proportional reasoning to solve a rate problem.
12	N	C	58.6	60.6	Identifies an area model of a unit fraction.
13	AFP	B	59.3	61.2	Identifies the order of operations required to solve a given word problem.
14	MCD	C	64.1	65	Estimates the amount of liquid in a container.
15	N	C	59.7	58.7	Compares and orders the totals of four pairs of decimal numbers.

Item	Strand	Answer	Qld%	Aust%	Description
16	MCD	D	55.3	57.6	Calculates the probability of a random activity.
17	AFP	D	53.8	52	Interprets and solves a simple inequality.
18	S	D	54.3	53.9	Visualises a folded rectangle to identify the position of a given vertex.
19	MCD	B	47.7	50	Matches results in a graph to the spinner most likely to produce them.
20	S	C	55	52.2	Describes the transformation of a 2-D shape in terms of angle and direction.
21	N	600	37.9	40.5	Solves a problem involving proportional reasoning.
22	S	A	38.3	39.9	Follows directions on a street map.
23	N	6240	44.2	43.7	Solves a problem involving multiplication.
24	S	B	36.9	39.5	Uses geometric reasoning to calculate the shaded area of a complex shape.
25	S	24	33.9	35.5	Interprets a diagram to calculate the total number of faces on three objects.
26	AFP	12	30.2	33	Uses algebraic reasoning to solve a measurement problem.
27	N	D	19.4	17.7	Identifies the midpoint between two fractions on a number line.
28	AFP	D	21.5	22.6	Estimates the missing number in an equation involving order of operations and decimals.
29	MCD	32	21.9	23.2	Calculates the area of a rectangle given the proportional lengths of its sides and perimeter.
30	MCD	C	25.5	26.5	Applies proportional reasoning and converts measures to solve a problem.
31	S	10	23.9	21.8	Visualises a complex construction of cubes from three viewpoints to calculate the number of cubes used.
32	N	0.0625	10.1	11	Uses the relationship between two unit fractions to calculate a decimal fraction.

## Year 7 Numeracy: Key messages

### Performance

Student results for Numeracy in Years 7 and 9 are reported as a single score. However, as shown in the preceding tables, there appear to be significant differences between the results of the two tests — calculator-allowed and non-calculator. A significant difference between the raw scores achieved by an individual student on the two tests may warrant investigation.

While most students attempted to answer all test items, a number omitted the more difficult items towards the end of each test. These are items for which students have to construct a response rather than select an answer from among given options. The number of students omitting questions ranges up to 5% on the non-calculator test and, interestingly, up to 12% for the calculator-allowed test. These figures are lower than in 2013 but are still significant. Teachers will need to ask students their reasons for omitting questions, as a non-response provides no information teachers can use to improve learning.



The percentage of students who correctly answered items on the calculator-allowed test ranged from 90.2% to 8.6%, with 13 of the 32 questions answered correctly by more than 50% of students. For the non-calculator test, the range was from 88.4% to 10.1%, with 19 of the 32 questions answered correctly by more than 50% of students.

There were no significant differences (greater than 3%) between the results achieved by Queensland students and those of the national cohort. The greatest difference was for item 11 of the non-calculator test, where the Queensland result was 3% below the national score. For this item, students had to use proportional reasoning to solve a rate problem.

There were also no significant differences in the results for the 4 strands of mathematics included in the Numeracy test — Algebra, function and pattern; Measurement, chance and data; Number; Space — although students found some aspects of these strands more challenging than others.

When looking at the data for a single test item, teachers can compare the grouped data for their class with that of the state or national cohort. This will enable them to judge the level of difficulty that students experienced with that item. For example, students across the country found it very difficult to solve a problem involving successive percentage increases (CA 28), possibly because they are yet to fully understand the concept of percentage and are challenged by multistep problems. For some items, the differences between the national, state and class data may not be significant, but teachers may still wish to investigate the reasons for the poor performance of students on items that assess simple content and skills fundamental to numeracy development. Only 46% of Year 7 students, for example, were able to square a decimal number using a calculator and identify the closest whole number.

### **Implications for teaching**

Most of the items on the Numeracy tests are word problems and more than 60% include a graphic. It is not enough that students know how to carry out the four mathematical operations. They need to know when and where to use these and to understand the order in which they are to be performed when more than one operation is involved. Students also need to be taught a range of problem-solving strategies, including how to translate the information in the text and graphic into arithmetic or algebraic expressions or equations. This process and the reasoning involved may need to be modelled for students. Three items on each test assessed students' abilities to interpret expressions or equations and match them to word problems or to interpret an expression to calculate an answer (CA 7, 21, 24 and NC 13, 17, 28).

Not all the items on the calculator-allowed test require use of a calculator. Students need to understand that calculators are tools to help them solve problems; calculators do not solve problems. Students still have to read and interpret the problem, determine the strategies to solve it and apply these in the correct sequence. They also need to be able to interpret the answer to see that it makes sense. The availability of a calculator does not negate the need for mathematical understanding by the person using it.

Calculator-allowed items produce some of the most unreasonable answers to test items, whether single or multistep problems. Students who are not familiar with the various functions of their calculator or who are not proficient at entering the required calculations are likely to produce inaccurate answers. For students to use calculators efficiently, they need to be taught:

- how to determine when to calculate mentally, when to use a calculator and when to use paper and pencil
- estimation strategies to apply before they begin calculations, e.g. rounding numbers and mentally calculating approximate answers, to check their work and the reasonableness of their answers. They need to understand that they should not rely totally on an answer that appears on their calculator display

- organised procedures for entering numbers and checking entries on the screen
- how to use all the functions on their calculator, including the memory.

Many of the test items require students to engage in multiplicative thinking, e.g. items 11, 20, 25, 26, 28, 31 and 32 on the calculator-allowed test; items 1, 11, 17, 21, 23, 29 and 30 on the non-calculator test. The shift from additive thinking to multiplicative thinking is a challenge for many students and may take some time. To engage in multiplicative thinking, it is important that students understand the proportional structure of multiplication and division. They need to move beyond a *groups of* idea for multiplication and division.

Multiplicative thinking is characterised by:

- a capacity to work flexibly and efficiently with an extended range of numbers (for example, larger whole numbers, decimals, common fractions, ratio and percent)
- an ability to recognise and solve a range of problems involving multiplication or division, including direct and indirect proportion
- the means to communicate mathematical thinking effectively in a variety of ways (for example, words, diagrams, symbolic expressions and written algorithms).

Students need to be given time to develop an understanding of multiplication, its commutative and distributive properties, and time to think through associated word problems.

Please refer to SunLANDA for a detailed analysis of individual test items, including teaching ideas designed to assist with the development of the understandings and skills required for each item. SunLANDA is available to all schools on the QCAA website. SunLANDA materials are also available to Education Queensland schools through *OneSchool*.

# Year 9 Literacy

## Language conventions

### Spelling — Results and item descriptions

The percentage columns give the proportion of correct answers (facility rates). These results are based on provisional data.

Item	Answer	Qld%	Aust%	Description
Proofreading — error identified				
1	frozen (frozer)	96.4	96.9	Correctly spells a word with a schwa in the unstressed second syllable.
2	fair (fare)	92.5	92.9	Correctly spells a homophone.
3	lyrics (lirics)	86.8	88.5	Correctly spells a word with the short vowel <i>i</i> spelt with a <i>y</i> in the first syllable.
4	laughter (larfter)	87.5	88.4	Correctly spells a word where the base word has the pattern <i>-augh</i> .
5	faulty (fawty)	81	83.2	Correctly spells a word with the vowel digraph <i>-au</i> .
6	digits (didgits)	69.1	72.5	Correctly spells a two-syllable word with the soft <i>g</i> at the closed syllable juncture.
7	alligators (alligaters)	65.3	65.9	Correctly spells a multisyllable word with a schwa (o) in the final unstressed syllable.
8	yawning (yorning)	69.5	71.8	Correctly spells a word with the vowel digraph <i>-aw</i> in the base word.
9	molecule (molacule)	54.2	56.6	Correctly spells a word with a schwa (e) in the unstressed middle syllable.
10	genius (genious)	45.7	52.2	Correctly spells a multisyllable word with a schwa (u) in the final unstressed syllable.
11	cinnamon (cinamon)	48	51.6	Correctly spells a word with the doublet <i>n/n</i> at the first syllable juncture.
12	vague (vaig)	26.7	30.6	Correctly spells a word with the long vowel represented by <i>a</i> and the final consonant <i>g</i> with <i>-gue</i> .
13	depot (deppo)	19.8	21.9	Correctly spells a word with French etymology.
14	counterfeit (counterfit)	21.1	21.9	Correctly spells a word with the long vowel <i>ei</i> in the final syllable.
15	hierarchy (dyerarchy)	11.1	12.4	Correctly spells a multisyllable word with the long <i>i</i> in the first syllable.
16	bizarre (bazzar)	6.6	9.6	Correctly spells an uncommon homophone.

Item	Answer	Qld%	Aust%	Description
Proofreading — error unidentified				
17	format (formatt)	90.3	91.1	Identifies an error, then correctly spells a word ending with <i>t</i> .
18	dividing (divideing)	89.9	91.3	Identifies an error, then correctly spells a word with the ending <i>-ing</i> , requiring a change to the base word (e-drop).
19	journals (jurnals)	73.5	74.8	Identifies an error, then correctly spells a word with the <i>r</i> -influenced long vowel digraph <i>-ou</i> .
20	barrier (barriar)	72.3	73.9	Identifies an error, then correctly spells a word where the final syllable <i>-er</i> is unstressed.
21	economy (econumy)	68.3	71.7	Identifies an error, then correctly spells a multisyllable word with a schwa ( <i>o</i> ) in an internal syllable.
22	confronted (confrunted)	64.3	67	Identifies an error, then correctly spells a multisyllable word with the short vowel ( <i>u</i> ) in the base word represented by <i>o</i> .
23	antiseptic (anteseptic)	55.5	57.5	Identifies an error, then correctly spells a word with the prefix <i>anti-</i> .
24	significant (signifigant)	62.5	63.3	Identifies an error, then correctly spells a multisyllable word with a hard <i>c</i> in the final syllable.
25	eventually (eventully)	48.7	51.5	Identifies an error, then correctly spells a multisyllable word with an error in the base word <i>eventual</i> .
26	symmetry (simmetry)	36.7	38.4	Identifies an error, then correctly spells a word with the short vowel <i>i</i> represented by <i>y</i> in the first syllable.
27	corridor (corridoor)	30.4	32.7	Identifies an error, then correctly spells a multisyllable word with an unstressed final syllable.
28	embarrassed (embarassed)	23.9	25.5	Identifies an error, then correctly spells a multisyllable word with the doublet <i>r/r</i> at a syllable juncture.
29	hemispheres (hemespheres)	34.2	35	Identifies an error, then correctly spells a word with the prefix <i>hemi-</i> .
30	acquaintances (aquaintances)	8	9.8	Identifies an error, then correctly spells a multisyllable word with the letter <i>c</i> followed by <i>-qu</i> at the syllable juncture.

## Year 9 Spelling: Key messages

### Performance

Overall, Queensland Year 9 students are performing similarly to students nationally. The gap was most noticeable for the word *genius* in item 10. In both the error-identified set of items (1 to 16), and error-unidentified set (items 17 to 30), there were six questions where the correct response rate was less than 50%. The unidentified items required the students to first recognise the error and then correct it. The first six in each set had a similar pattern of performance.

In the error-identified section, several words of Latin, Greek or European origins had low facility rates. These were *vague* (27%), *depot* (20%), *hierarchy* (11%) and *bizarre* (7%). For these words, students would have to use their knowledge of the influence of the origin of the words and their meanings on spelling. Omission rates were lower in this section. More than 10% of Year 9 students failed to attempt to spell *hierarchy*, possibly because it was an unfamiliar word beginning

with a Latin and Greek root *hier*. The results for these words suggest that students would benefit from more knowledge of the increasingly advanced layers of the spelling system that is explained at the end of this section. A focus on this knowledge will also improve vocabulary.

Statistics show that girls are consistently more able than boys on error-identified items, with a gap of approximately 10% in their favour for most questions. The difference in performance of 18% was very pronounced for *cinnamon*, which required the doublet *n* at the first syllable juncture. It may be that girls have more familiarity with this word. The exception to this pattern was the performance of the boys on the words *depot* and *counterfeit*, where boys performed better by a narrow margin.

Students performed well with words which had familiar base words, such as *frozen*, *laughter* and *faulty* (*froze*, *laugh* and *fault*). A knowledge of affixes and word function within the sentence may have contributed to the high facility rates of over 80% on these items. There were also high facility rates with familiar words, such as the simple homophone *fair* and the word *lyrics*, which needed the short vowel *i* spelt with a *y* because of its Greek and Latin origins.

In the error-unidentified section, words which had regular, sounded pronunciation, such as *confronted*, had high facility rates. Several words of European, Latin or Greek origins also had good facility rates because they were probably more familiar to students. These words were *format*, *journals* and *economy*. Students performed well on familiar words such as *dividing* (observing the *e*-drop before *-ing*) and *journals* (recognising the diphthong *-ou*). The words *embarrassed* and *acquaintances* had very low facility rates of 24% and 8% respectively.

There was a heavy proofreading load in this section, with many distracting words competing for students' attention. Another noticeable problem was the inability of many students to recognise the base word, e.g. *eventual* in *eventually*. The addition of the affix *-ly* to indicate the adverbial function of the word sometimes compromised the spelling of the base word. Omission rates were also much higher in this section, with more than 10% of students not attempting to spell *hemisphere*, *embarrassed* and *acquaintances*.

Girls were consistently more able than boys in this section. The largest difference in performance was evident in the word *embarrassed*, which needed a double *r* at the syllable juncture. Sometimes students can better hear the double *r* consonants in the pronunciation of the noun form, e.g. *em/bar/rass/ment* or in the base word *embarrass*.

In both sections, common error patterns such as *depo* (55%), *bazar* (23%) and *corridor* (22%) occurred because of an over-reliance on the strategy of sounding out at a simple level of common sense, i.e. by imagining the individual sounds of the words as spoken and then assigning letters to this sound. All three words are of European origin and thus students need to be exposed to such words through reading or exercises to build vocabulary.

Spelling in English, for a range of reasons, does not simply reflect the spoken sound of the syllables in the word. The spelling system is layered and it requires instruction about the layers, such as:

- pronunciation and stress
- morphology or the function of words in the sentence as well as the effect of affixes on the base word
- spelling-meaning connections in words coded at the meaning layer, and applied to roots derived from classical and foreign languages.

## Implications for teaching

Teaching should focus on a clearer explanation of the spelling system as outlined above. Boys generally respond to the strong logic inherent in the system. More effort is needed to engage boys

in the challenge of learning spelling to address the obvious gender gap. As well as knowledge of the system and how to apply spelling strategies, students need constant encouragement and regular opportunities to read widely in order to be exposed to as many words as possible.

Teaching should also focus on Latin and Greek roots, suffixes and prefixes to make students aware of the effect these have on the meaning of the words as well as on spelling and pronunciation. Students should also practise the technique of *strip down and build up* so that they can clearly recognise the base word before it is impacted upon by affixes and inflectional endings.

Students should be taught strategies of proofreading and be given opportunities to do this on each other's texts. Proofreading is worthy of regular practice as it is a literacy skill that truly improves student reading and writing.

### Being test-wise

Students should:

- avoid over-correction. A common error pattern is for students to correct the mistake in the word and then receive no credit because they incorrectly 'fix' another section of the word, e.g. common error patterns showed 5% of students spelt *simmetry* as *symetry* instead of *symmetry* and 6% spelt *hyerarchy* as *hierachy* instead of *hierarchy*. Unless the word is a homophone and needs to be completely respelt, often there is only one error in the word to be corrected
- practise proofreading and cloze activities to experience the distracting effect of seeing misspelt words in close proximity to words that are often misspelt but in this case are not. In item 22, 7% of students incorrectly chose the word *burglar*, misspelling it as *burgular*; in item 25, 26% of students incorrectly chose the word *wandering*, misspelling it as *wondering*; and in item 28, 9% of students incorrectly chose the word *received*, misspelling it as *recieved*.

Please refer to SunLANDA for a detailed analysis of individual test items, including teaching ideas designed to assist with the development of the understanding and skills required by each item. SunLANDA is available to all schools on the QCAA website. Additionally, SunLANDA materials are available to Education Queensland schools through *OneSchool*.

## Grammar and punctuation — Results and item descriptions

The percentage columns give the relative proportion of correct answers (facility rates). These results are based on provisional data.

Item	Answer	Qld%	Aust%	Description
31	D	96.7	96.3	Identifies the correct combination of time markers.
32	D	92.7	93.3	Identifies the correct form of an auxiliary verb.
33	B	91.3	92.5	Identifies the correct use of the modal adjective.
34	B	87.7	87.2	Identifies the correct pronoun referencing.
35	C	81.8	82.9	Identifies the correct adverbial clause to introduce a sentence.
36	A	81.2	82.6	Identifies the correct use of the adverb <i>well</i> .
37	B	83	83.8	Identifies the correct pronoun reference in a short text.
38	B	70.9	71.8	Identifies a complex sentence with correctly referenced pronouns.
39	A	72.2	73.2	Identifies the modal adjective that indicates uncertainty.
40	A	63.5	64.4	Identifies the correct use of clause and list commas.
41	C	55.8	59.5	Identifies the correct subordinating conjunction to indicate contrasting propositions.

Item	Answer	Qld%	Aust%	Description
42	D	62.9	64.4	Identifies nominated words as adjectives.
43	C	73.1	72.4	Identifies a sentence written in past tense.
44	D	66.4	68.3	Identifies an adjective in participial form.
45	A	63.9	67	Identifies correct subject-verb agreement.
46	A	52.3	51.1	Identifies the correct punctuation of direct speech with internal attribution.
47	D	59.1	62.7	Identifies the correct subject-verb agreement.
48	D	53.9	57.7	Identifies the correct pronoun referencing across clauses.
49	D	47.7	49.5	Identifies the correct use of a colon.
50	C	44.2	47.8	Identifies the correct use of capital letters for proper nouns.
51	B	38.1	43.5	Identifies the correct prefix to form an antonym.
52	B	41.7	44.1	Identifies the main clause of a complex sentence.
53	C	50.9	53	Identifies the error in the use of capital letters in common nouns.
54	A	34.1	35.4	Identifies the correct use of <i>past</i> as a preposition.
55	D	42.6	45.4	Identifies the correct punctuation of direct and indirect speech.
56	A	40.1	39.4	Identifies the correct boundary punctuation of two simple sentences.
57	D	24.5	25.5	Identifies the correct use of an apostrophe of possession.
58	D	7.2	6.4	Identifies the number of clauses in a complex sentence.

## Year 9 Grammar and punctuation: Key messages

### Performance

Many students in the Year 9 cohort were able to answer quite sophisticated questions. Some performances surpassed those of previous cohorts on comparable tasks. Nevertheless, some areas of weakness identified in previous tests can also be seen in this cohort.

Many students lack knowledge of the names and functions of grammatical features (i.e. metalanguage). Nearly 40% of Year 9 students were unable to identify adjectives in sentences in answer to items 42 and 44. When asked in item 54 to identify a preposition, about half of the cohort chose a noun or an adjective. Most students, especially the boys, did not understand that item 52 required them to put aside meaning and to identify instead which words contained the formal elements of a stand-alone sentence.

Facility rates dropped when questions involved elaborated sentences. Such questions require good knowledge of punctuation and clause structures. Nearly 40% of students did not know when a comma separates a subordinate clause from a main clause (item 40). About half the cohort were unable to identify the purpose and use of a colon (item 49). Even fewer were able to identify two sentences that run together without boundary punctuation (item 56). Very few students could count the clauses in a complex sentence (item 58).

Pronoun referencing can become complex in elaborated sentences and in more mature texts. The variable performance of students on items 37, 38 and 48 shows that many need help to learn how to check a chain of reference.

Items 46 and 55 involved punctuation of direct speech. Similar knowledge is also needed by

students when they quote from texts in their subject-area essays. The performance of the 2014 Year 9 cohort seems to show an improvement over that of the 2013 cohort on a similar question. Nevertheless, it remains disappointing that many Year 9 students, especially boys, struggle with this task.

Questions about the capitalisation of proper names and titles appear regularly on the NAPLAN test. Items 50 and 53 on the 2014 test were done significantly better by girls, which may indicate that there is plenty of room for improvement in boys' knowledge of such rules.

### **Implications for teaching**

Some areas of weakness identified in the test, such as advanced verb agreement, the punctuation of proper names and direct speech, suggest the need for explicit teaching of specific conventions and of proofreading routines.

Students will be motivated to improve their knowledge of written English if they can see how this knowledge helps them to carry out engaging and authentic reading and writing activities. Such activities are implied in the Year 9 English content descriptions in the Australian Curriculum. For example, the areas of weakness identified in the NAPLAN test (and other assessments) can be the focus of teacher intervention during lessons that cover the following content areas from the 'Language' strand of the curriculum:

Compare and contrast the use of cohesive devices in texts, focusing on how they serve to signpost ideas, to make connections and to build semantic associations between ideas (ACELA1770)

Understand how punctuation is used along with layout and font variations in constructing texts for different audiences and purposes (ACELA1556)

Explain how authors creatively use the structures of sentences and clauses for particular effects (ACELA1557)

Understand how certain abstract nouns can be used to summarise preceding or subsequent stretches of text (ACELA1559)

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## Writing task sample

Year 9

### Smoking Should be Illegal

Ever since the first cigarette was ~~first~~ invented, smokers have been freely roaming the streets spreading sick and toxic fumes throughout our neighbourhoods, polluting both their own lungs and those around them. The law that legalises smoking must be changed to rid our public areas of smokers and their extremely hazardous effects. Smoking ~~is a~~ presents a major problem to ones own health, and can cause infection of lungs and lung cancer. However, smoking also effects other, non-smoking people who have no intention of allowing such toxicity into their bodies. Changing this inconsiderate law will prevent these issues and allow society to live without fear of noxious gases once more.

Smoking has been scientifically tested for health issues, and it can no longer be denied that letting the mixture of drugs contained inside a cigarette into your lungs and the rest of your body is not safe. Nicotine is an addicting and dangerous drug, and the unfortunate truth is that more than 10% of Australia's population smokes it everyday. Hundreds of people die every year as a result. It also prevents mental health issues, as addictive drugs always do. Once

started, it can be nigh impossible to prevent oneself from the continuation of the use of the drug, despite the obviously hazardous health effects. Surely making such actions illegal will be enough encouragement to help many, many people break the harmful habit. Not only could this law help break habits. It could save lives.

Smokers who carelessly wander through public places are presenting not only a problem to themselves but to those around them, which is an incredibly inconsiderate choice. Imagine you are walking through a nice green park. Suddenly you see a person in front of you, surrounded by thick grey puffs of smoke that you can already smell the stench of many metres away. Would you go up and have a friendly conversation with that person? Or would you, like most Australians, discretely change your course and attempt to find somewhere else that you might be able to enjoy? We have a right to be protected against these people, as they deteriorate society and destroy our ability to walk freely in public around other people. A law must be passed to illegalise these evildoers and rid society of them once and for all.

It is a moral crime to allow smokers to continue with their addiction, and the change of this law will bring many benevolent effects to both the

individual smoking addict along with the rest of society. It needs to be made a priority to ensure the safety of the public, and to not change this law would be inconsiderate and unfair to both smokers and non-smokers alike.

END OF TEST

## Year 9

<b>Audience</b>	<b>6</b>
The writing is authoritative and impassioned. The title and first sentences orient the reader to an argument for a ban on smoking. The evils of smoking are forcefully presented and used to justify the thesis. The viewpoints of both smokers and non-smokers are considered. The possible objection that a ban would restrict smokers' liberty is foreseen and deflected: allowing people to harm themselves by smoking is a <i>moral crime</i> . Further, it is actually the smokers who restrict the rights of others. Thus, a ban will be fair to <i>both smokers and non-smokers alike</i> .	
<b>Text structure</b>	<b>4</b>
The introduction places the demand for legal change in a prominent position and repeats it at the end of the section. It also foreshadows that the essay will have a double focus on smokers and non-smokers. The body of the essay discusses smokers and non-smokers in turn. The conclusion reaffirms the need for law change and summarises the benefits to both groups.	
<b>Ideas</b>	<b>5</b>
Ideas are selected to persuade both the pro- and anti-smoking audience. Ideas are developed and elaborated with sound reasoning and project the reader into possible scenarios. The writer pretends there is a law legalising smoking which needs to be altered into a law banning smoking.	
<b>Persuasive devices</b>	<b>4</b>
The appeal to reason is strong but the writer also packs in many emotional appeals. There are disparaging epithets and adjectives, <i>moral crime</i> , and appeals to high principles of rights and responsibilities. There is an imagined scenario which presents smokers as grotesque social pests and non-smokers as victims. Points are made memorable by rhetorical crafting, for example: <i>Not only could this law help break habits. It could save lives.</i>	
<b>Vocabulary</b>	<b>4</b>
Words are selected to convey strong feelings in a formal register. Precise terms add authority to the writing. There is some imprecise usage: <i>issue</i> is misused to mean problem; <i>sick</i> is misapplied to fumes, but generally the vocabulary is sustained and consistent.	
<b>Cohesion</b>	<b>4</b>
The writer admirably unifies the parts of the argument. The specialist terminology contributes to lexical cohesion. A stumble in pronoun referencing is due to the ambitiousness of the sentences and the complexity of the ideas.	
<b>Paragraphing</b>	<b>3</b>
Internal development within the paragraphs is exemplary.	
<b>Sentence structure</b>	<b>6</b>
There are many mature and rhetorically patterned sentences. Ambitious attempts lead to occasional awkwardness and one slip: The ellipsed subject of the subordinate clause of one sentence ('Once [the habit has been] started, ...') should have controlled the subject ('it') of the main clause.	
<b>Punctuation</b>	<b>4</b>
All sentences were punctuated correctly. The student uses clause-separating commas correctly but tends to overuse a pause comma before a coordinating 'and'. This student, a very proficient writer, fails to use the possessive pronoun in <i>one's own health</i> and <i>Australia's population</i> .	
<b>Spelling</b>	<b>6</b>
All words correctly spelt. Many difficult words: <i>neighbourhoods</i> , <i>legalises</i> , <i>illegalise</i> , <i>inconsiderate</i> , <i>scientifically</i> , <i>nicotine</i> , <i>dangerous</i> , <i>population</i> , <i>prevents</i> , <i>addict</i> , <i>issues</i> , <i>continuation</i> , <i>obviously</i> , <i>encouragement</i> , <i>surrounded</i> , <i>conversation</i> , <i>individual</i> , <i>priority</i> , <i>ensure</i> , <i>extremely</i> , <i>hazardous</i> . Some challenging words: <i>incredibly</i> , <i>discretely</i> , <i>benevolent</i> , <i>deteriorate</i> , <i>cigarette</i> .	

# Reading

## Results and item descriptions

The percentage columns give the proportion of correct answers (facility rates). These results are based on provisional data.

Item	Answer	Qld%	Aust%	Description
Are you my mother? (Informative)				
1	D	88.8	89.2	Interprets directly stated information.
2	B	97.5	97.5	Locates directly stated information.
3	C	89.5	89.9	Interprets the meaning of words in a text.
4	C	64.6	65.5	Interprets the meaning of a word group.
5	A	79	78.6	Interprets directly stated information.
Olympics sports — then and now (Informative)				
6	A	91.3	93.7	Locates directly stated information.
7	B	86	86.8	Makes a text-to-world inference.
8	C	91	92.1	Locates directly stated information.
9	C	9.1	10	Integrates information to make an inference.
10	B	27.4	31.4	Interprets the purpose of information in a paragraph.
11	B	65.5	67.5	Interprets directly stated information.
Chan and the waterfall (Narrative)				
12	B	68.3	69.3	Identifies the dramatic tension in a narrative text.
13	C	82	83.4	Interprets directly stated information.
14	A	72.7	74.8	Interprets the meaning of words in context.
15	D	58.4	60	Interprets directly stated information.
16	B	46.7	48.9	Infers a character's attitude.
17	*	64.8	65.4	Synthesises information to make an inference.
Icebergs (Informative)				
18	D, B, C, A	55	61.6	Identifies textual features of a factual description.
19	C	72.1	74.3	Identifies the purpose of a factual description.
20	D	80.8	81.9	Locates directly stated information.
21	B	56.2	57.5	Locates directly stated information.
22	C	73.3	75.8	Locates directly stated information.
23	A	46.9	50.8	Interprets information in a factual description.

Item	Answer	Qld%	Aust%	Description
Outside the triangle (Narrative)				
24	C	71.1	73.3	Infers the reason for a character's action.
25	A	84.2	86.1	Infers the reason for a character's action.
26	C	88.4	89.8	Infers a character's motivation.
27	A	32.7	35.8	Interprets information about relationships between characters.
28	D	41.8	45.9	Infers the reason for a character's response.
29	D	42.2	45	Identifies the theme of a narrative.
30	C	47.7	49.7	Identifies a shift in the direction of a narrative.
Animals and earthquakes (Persuasive)				
31	D	27.5	30.4	Interprets the significance of information given in brackets.
32	B, A, C	54.4	58.8	Links adjectives to relevant concepts.
33	B	66.9	69	Identifies the purpose of an example in persuasion.
34	D	51.6	53.9	Synthesises information to draw a conclusion.
35	C	53.6	58.7	Identifies the probable consequence of an action.
36	B	58.5	63.2	Evaluates the source of an author's credibility.
37	*	6.2	7.7	Compares tone across paragraphs.
Beyond the beaches (Narrative)				
38	D	30	27.9	Recognises narrative chronology.
39	A	46.7	51.4	Synthesises the changes in a character's mood.
40	B	48.9	51.3	Interprets how imagery enhances the description of setting.
41	A	64.7	68.5	Infers the reason for a character's action.
42	C	43.7	48.9	Identifies the specific meaning of a noun from context.
43	B	41.7	43.2	Infers how a background contributes to characterisation.
44	A	44.9	48.4	Interprets a thematic, narrative link.
Their rightful place (Persuasive)				
45	D	50.3	54.9	Infers the purpose of a persuasive text.
46	B	45.5	48.7	Identifies how a semantic shift builds authorial stance.
47	A	33	35.2	Identifies how nominalisation creates authority in a text.
48	A	40.8	44.6	Infers the purpose of a paragraph.
49	D	23.5	25.6	Evaluates a writer's stance on an issue.
50	B	19.5	21.4	Identifies how the writer's stance is captured in a conclusion.

**\* For item 17**

**Correct responses** referred to both Chan AND the comic strip writer.

- Chan and the writer
- Chan and the person writing the story
- comic strip character talking to comic strip writer

**Incorrect responses** only referred to either Chan or the writer, or gave another explanation.

- Chan is talking to herself.
- the writer
- a commentator

**\* For item 37**

**A correct response** referred to the descriptions in paragraph 6 as being more dismissive, humorous or anthropomorphic, having a more persuasive intent OR refers to the descriptions in paragraph 3 as being more objective. Where the difference was not explained, the comparative element must have been implied.

- Paragraph 3 is more objective and straightforward. Paragraph 6 is less.
- Paragraph 6 has a more persuasive tone/more ridiculing tone.
- In paragraph 3 the animals are just doing something. The second paragraph gives them funny human qualities.

**Incorrect responses** did not explain the difference in tone, or did not refer to tone.

- The animals in paragraph 6 are described to make their behaviour seem a bit ridiculous.
- They sound pretty funny in paragraph 6.
- They sound different.
- The second paragraph uses adjectives, not verbs.

## Year 9 Reading: Key messages

### Performance

The Year 9 Reading test for 2014 consisted of 50 items, covering eight reading units. Three units were primarily informative texts, two could be described as argumentative, with a further three falling within the narrative genre. Replicating previous performance, Queensland Year 9 students tended to perform more strongly on informative texts, and less ably on narratives. The fact that items based on the three informative texts were located early in the test (Units 1, 2 and 4) may have contributed to this result, given that there is some progression in difficulty in the Reading test.

In the narrative units, students still performed well when items relied upon the location of specific threads or anchors within the text, or making text-based inferences. When students were required to reach beyond the text, making real-world links and associations to assist in making meanings, performance declined. For instance, item 29 asked students to identify a 'key theme' in the text, based around the title *Outside the triangle*. The question required students to make an association between the metaphor of the title and the theme. Only 42% of Queensland students answered this item correctly. Apart from the semantic challenge of this task, metalinguistic knowledge (metaphor, theme) was also required. Other items with some metalinguistic element included in the stem (*tone*: item 37, *imagery*: item 40, *nominalisation*: item 47) also resulted in relatively low facility rates (6%, 49%, 33%).

Items that required higher-order reasoning and comprehension continue to challenge Year 9 students. Typically, these items may address the purpose, main idea, theme or tone of the text, in whole or in part. Cognitively, comprehension skills of analysis and synthesis are drawn on in approaching these types of items. In the less complicated information texts, students were generally able to identify a main purpose or idea, e.g. item 11 *The purpose of the second last paragraph is to discuss Olympic sports that...* However, in the more challenging texts such as *Their rightful place*, a series of items (45, 46, 48, 49, 50) all required deeper understandings that moved beyond the text itself, with the reader associating the textual with the contextual. The location of this unit (last) may also have contributed to relatively lower facility rates.

One item which produced a surprisingly low result was item 9, based on the unit *Olympic sports — then and now*. Only 9% of Queensland students answered this item correctly, even though the three previous items, based on the same unit, were handled very well. The item asked students to identify the first location of the Olympic event of *tug-of-war*. The text stated: *Tug-of-war was only an Olympic event from 1900 until the 1920 Games which were held in Belgium*. 87% of Queensland students selected Belgium (option D), which was an incorrect response. The grammatical clue (use of conjunctions *until* and *which*) was either overlooked or misunderstood.

A notable aspect of Year 9 reading results was the relative gender difference in performance. Boys' performance has traditionally been weaker than that of girls. Of the 50 items on the 2014

Reading test, girls outperformed boys on 40 items. On two further items, results were comparable. In items based on narrative texts, girls' performance was on average 6% higher than that of boys. This area appears to be of most significance.

## Implications for teaching

It is difficult to overestimate the importance of reading in the school curriculum in terms of understanding subject matter, recognising the relationships between the reader, what is read, and the world around us, and fully engaging in what is taught and learnt.

NAPLAN Reading test units are only snapshots of the types of reading material available to Year 9 students, and while some test-wiseness strategies may assist the reader in answering NAPLAN items, it would be more productive for teachers to address more broadly ways to encourage reading at school and beyond. These strategies could include:

- the inclusion of genuine and authentic texts wherever possible
- developing greater understanding of the different reading genres and their characteristics, including defining the metalinguistic features accompanying these genres
- developing greater grammatical awareness of text, especially text cohesion
- promoting higher-order questioning of texts students are reading across all subject areas and disciplines
- strategically selecting reading materials that appeal to both boys and girls.

NAPLAN Reading test texts should not be deemed to be an end in themselves. Engaging students in 'real' texts within the school setting is likely to develop skills and comprehension strategies that can also be applied productively to test situations.

Just as there is an ever-broadening curriculum, so too is there a growth in reading material, both in form and content. There are often strong generic features associated with the common reading text types, and without labouring the point, teachers can share these within their classes at all levels and within every subject. Teachers who are willing to share their own approaches to reading can produce a level of student engagement reaching beyond simple comprehension.

Recognising how texts 'hang together' is a valuable tool for students, and can be beneficial in school and in testing situations. Text cohesion, either grammatical or lexical, is deserving of explicit teaching, and is of particular benefit to Year 9 readers, who are generally more capable of recognising nuances and subtleties in text construction. The technique of 'flashback', so popular now in written fiction and film (and sometimes NAPLAN reading units), could be explored in this regard.

Students in Year 9 should be encouraged to explore deeper meanings in texts, whether factual or imaginative. This exploration often requires the reader to draw on higher order inferential or analytical skills and strategies. Challenging students to identify and articulate main ideas, themes, purposes, etc. of texts should be a regular part of classroom talk, for both teacher and student.

Though schools are conscious of the need to better engage adolescent boys in reading, the targeted selection of texts that may merge dramatic action with elements of figurative expression should be encouraged.

Please refer to SunLANDA for a detailed analysis of individual test items, including teaching ideas designed to assist with the development of the understanding and skills required by each item. SunLANDA is available to all schools on the QCAA website. SunLANDA materials are also available to Education Queensland schools through *OneSchool*.



# Year 9 Numeracy

## Results and item descriptions

The numeracy strands are abbreviated as follows: Algebra, function and pattern (AFP); Measurement, chance and data (MCD); Number (N); Space (S). All items are worth one score point.

The percentage columns give the proportion of correct answers (facility rates). These results are based on provisional data.

### Calculator-allowed paper

Item	Strand	Answer	Qld%	Aust %	Description
1	N	A	94.4	95.3	Calculates the difference between two 6-digit numbers.
2	MCD	B	92	93.1	Identifies the likelihood of the outcome of an event.
3	MCD	A	88.8	90.4	Locates two values in a table and calculates difference.
4	MCD	B	78.9	80.6	Interprets a plan and scale to calculate a distance.
5	S	A	74.5	75.3	Identifies congruent triangles in a quadrilateral.
6	N	C	69.8	72.2	Interprets and matches different representations of a decimal number.
7	N	B	81.7	81.6	Locates a value on a number line that lies between a given range.
8	S	C	67.6	67.1	Calculates the size of an unknown angle in a quadrilateral.
9	AFP	C	65.9	67.5	Uses proportional reasoning to convert an imperial measure to an approximate metric equivalent.
10	S	B	74.9	73.2	Applies line symmetry to complete a 2-D pattern.
11	MCD	C	70.4	72	Identifies the numerical value of a given probability.
12	S	A	68.3	70.1	Solves a problem involving similar triangles and proportional reasoning.
13	N	C	61.7	63.8	Calculates the smallest number of coins needed to make a given total.
14	AFP	C	63.1	64.9	Uses algebraic reasoning, subtraction and division to solve a problem.
15	AFP	D	57.3	58.9	Matches a word problem to an algebraic expression.
16	MCD	B	50.6	52.6	Interprets a scale with uncommon graduations.
17	S	D	51.1	53.4	Calculates a distance using a map and scale.
18	N	A	53.8	57.1	Solves a time problem involving a percentage increase.
19	MCD	B	38.4	39.3	Calculates the areas of triangles that have different dimensions.
20	MCD	0.175	33.2	36.2	Solves a multistep problem involving calculating with common fractions and decimal numbers.

Item	Strand	Answer	Qld%	Aust %	Description
21	S	A	31.2	34.4	Follows directions to identify the number of degrees in a turn.
22	N	1072	36	41.3	Calculates the volume of a dome when given the formula and the radius.
23	N	21.5	35.4	41	Solves a complex arithmetic equation involving order of operations and square roots.
24	N	D	34.7	37	Interprets scientific notation to identify the solution to a problem.
25	AFP	120	25.9	29.4	Substitutes into an equation to calculate a missing value.
26	N	29.70	18.2	23.3	Uses mathematical reasoning to solve a rate problem involving money.
27	MCD	8	17.8	20.8	Solves a measurement problem involving the areas of rectangles and metric conversion.
28	S	A	15.7	19	Uses geometric properties of common shapes to calculate an angle in a composite shape.
29	AFP	42	12.4	17.3	Solves a problem involving calculating with equivalent fractions.
30	N	D	11.6	16.1	Solves a multistep problem involving calculating equivalent fractions.
31	MCD	90 000	9	11.6	Calculates the capacity of a prism given the area of the cross section.
32	S	D	8.9	10.9	Expresses the relationship between the surface areas of two 3-D shapes as a ratio.

#### Non-calculator paper

Item	Strand	Answer	Qld%	Aust%	Description
1	S	D	93.8	94.2	Identifies the names of two common 2-D shapes.
2	AFP	B	86	86	Shares an amount of money proportionally.
3	MCD	C	73.4	75.6	Calculates a finish time given a start time and duration.
4	MCD	B	78.7	80	Converts metres to centimetres.
5	AFP	D	78.9	78.2	Identifies the expanded form of an algebraic expression.
6	AFP	B	66	68.5	Identifies the order of operations required to solve a given word problem.
7	N	A	76.9	78.8	Solves a problem involving division of a 3-digit number.
8	N	A	74.4	76.9	Solves a problem involving addition and subtraction of money.
9	N	C	67	70.8	Rounds a decimal number to two places.
10	MCD	C	70.4	72.6	Estimates the amount of liquid in a container.
11	N	C	69.5	70	Compares and orders the totals of four pairs of decimal numbers.

Item	Strand	Answer	Qld%	Aust%	Description
12	S	D	65.8	65.7	Visualises a folded rectangle to identify the position of a given vertex.
13	MCD	B	62.9	64.1	Calculates the most likely outcome of an event.
14	AFP	D	63.4	65.5	Identifies the algebraic equation that represents a problem.
15	AFP	C	68	66.9	Identifies a given term in a number sequence.
16	N	B	58	62	Matches a percentage to an area representation.
17	S	A	60	60.1	Identifies the net of a cube.
18	S	A	45.3	49.1	Identifies the diagram with all points equidistant from a given point.
19	S	B	38.6	42.9	Uses geometric reasoning to calculate the shaded area of a complex shape.
20	MCD	C	45.6	45.9	Calculates the size of a given angle using degrees marked on a protractor.
21	S	C	46.6	49.3	Identifies the shortest route on a map.
22	N	B	40.5	41.6	Solves a multistep problem involving proportional reasoning.
23	S	A	40	41.8	Interprets a diagram and uses geometric reasoning to classify a triangle.
24	AFP	D	29.2	34.3	Identifies steps used to solve an equation.
25	AFP	64	35.7	39.2	Interprets the pattern in a table to calculate a future value.
26	MCD	C	25.5	27.1	Interprets a two-way table to calculate a fraction.
27	AFP	D	29.1	33.9	Estimates the missing number in an equation involving order of operations and decimals.
28	S	68	17	19.9	Solves a spatial problem by calculating the total length of the edges of a cube.
29	N	0.0625	18	21.2	Uses the relationship between two unit fractions to calculate a decimal fraction.
30	AFP	21	17.3	21	Solves a problem involving proportional reasoning.
31	N	7	6.6	8.3	Calculates the difference between a positive and negative number.
32	MCD	80	6.9	8.1	Solves a rate problem involving time and distance.

## Year 9 Numeracy: Key messages

### Performance

Student results for Numeracy in Years 7 and 9 are reported as a single score. A significant difference between the raw scores achieved by an individual student on the two tests may warrant investigation.

While the majority of students attempted to answer all test items, a number omitted the more difficult items towards the end of each test. These are mainly items for which students have to construct a response rather than select an answer from given options.

The percentage of students failing to answer constructed-response items on the non-calculator test ranged from 6 to 9%. The percentage was significantly higher on the calculator-allowed test, where the range was from 12% to 21%. Surprisingly, 19% of students also omitted item 28, a multiple-choice question, on the calculator-allowed test. Teachers will need to ask students their reasons for omitting questions, as a non-response provides no information for teachers to improve learning.

The percentage of students who correctly answered items on the calculator-allowed test ranged from 94.4% to 8.9%, with 18 of the 32 questions answered correctly by more than 50% of students. For the non-calculator test, the range was from 93.8% to 6.6%, with 17 of the 32 questions answered correctly by more than 50% of students.

There are some significant differences between the facility rates of the national cohort of Year 9 students and those of Queensland students. Queensland students performed equal to or above the national cohort on three items on the calculator-allowed test and on four items on the non-calculator test. Eleven items on the calculator-allowed test and nine items on the non-calculator test had a Queensland facility rate of 3% or more below the national rate. The greatest differences were on items 22 and 23 on the calculator-allowed test. Both these items involved solving equations. There was also a significant difference for items 24 and 27 on the non-calculator test, which also involved equations. Queensland students also performed considerably below the national cohort on the two items on the calculator-allowed test — 29 and 30 — that required them to use equivalent fractions to calculate an answer.

When looking at the data for a single test item, teachers can compare the grouped data for their class with that of the state or national cohort. This will indicate the level of difficulty that students experienced with that item. For some items, the differences between the national, state and class data may not be significant, but teachers may still wish to investigate the reasons for the lower performance of students on items that test simple content which teachers deem to be fundamental to numeracy development. For example, only 67% of Year 9 Queensland students and approximately 71% of the national cohort can round a decimal number to 2 decimal places.

## Implications for teaching

At least eight items on the tests required students to match a word problem to a mathematical representation, to solve an equation or to identify an equivalent expression. Other problems from the various strands of mathematics invited students to translate a word problem into an equation to solve.

Many students rely on arithmetic approaches to word problems using number facts and 'guess and check' rather than algebraic strategies to solve them. While these may work well in situations where the numbers are small enough to reason about unknown values, they do not support the development of algebraic reasoning and will not be efficient or effective for tackling more complex problems. However, the methods that students use may give teachers insight into what students already know and provide the basis for progressing to more algebraic ways of thinking.

To work algebraically, students need to be taught how to interpret and use the precise notation of algebra, as many aspects can be confusing, e.g. notation such as  $m^4$  and  $4m$ . The fact that letters are used in different ways in mathematics can also cause confusion. Examples of the use of letters can be seen in items 25 and 28 on the calculator-allowed test and items 5, 12, 14, 23 and 24 on the non-calculator test. Other key learnings include the following:

- The equals sign means 'has the same value as' and 'is equivalent to'. It does not mean calculate. To solve equations, operations are balanced across the '=' sign.
- The focus of algebra is on relationships rather than calculations.

- Operations and their inverses. This knowledge is necessary to enable students to find missing numbers or unknowns in equations, e.g.  $3x - 1 = 4$ , and to manipulate equations.
- The three properties of numbers: commutative, associative and distributive properties and how to use these to simplify or expand expressions and equations.
- Recognition of equivalent forms of expressions, including fractions.
- There is a standard order of operations to solve expressions or equations that involve more than one operation. This appears to be a difficult concept for many students despite having been taught the BODMAS or PEMDAS rule.

When presented with multistep problems, students who have access to sophisticated calculators have an advantage over those who use simple four-function calculators. Regardless of the type of calculator, students need to have the technical and mathematical knowledge and skills to use their calculator effectively. They need to be able to recognise the operations that the keys on their calculator represent, including the brackets and square root key, and know how to use the memory key. Encourage students to record their calculations and to check the reasonableness of their answers. Calculations that involve time should not be done with a calculator; too many students make the mistake of interpreting time as a decimal number (base 10), e.g. Year 9 CA item 18, Year 7 CA item 22.

Students need many opportunities to practise translating word problems to symbolic representations and back again. Begin with very simple expressions that involve a single variable, whole numbers and addition or multiplication. Discussion will be needed to tease out student misconceptions. Introduce other expressions and equations involving subtraction later, because if students are to develop their algebraic reasoning it is important that they extend their understanding of the minus sign from simply denoting subtraction to also denoting 'negative something', as in  $-3$ . Introduce expressions that involve division by a variable at a later stage unless they arise in some realistic context. The use of labelled diagrams to depict the relationships within word problems can support these translations. (Refer to the *Teaching ideas* for items 26 NC and 21 CA in the Year 7 item analysis on SunLANDA for steps to translate word problems into equations.)

Working through word problems and explaining the thinking and reasoning involved is a good way for teachers to model problem-solving strategies. Class explanations and discussions of these strategies are also useful in expanding a student's repertoire of problem-solving skills.

Please refer to SunLANDA for a detailed analysis of individual test items, including teaching ideas designed to assist with the development and understanding and skills required for each item. SunLANDA is available to all schools on the QCAA website. SunLANDA materials are also available to Education Queensland schools through *OneSchool*.

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