National Reading and Numeracy Tests

Understanding the outcomes – information for practitioners

2017

Llywodraeth Cymru
Welsh Government

Helping parents/carers to understand outcomes from the National Reading and Numeracy Tests

As part of the national reading and numeracy testing programme, the test outcomes for individual learners are provided to parents/carers in the form of a Pupil Results Sheet. Some parents/carers may be unfamiliar with interpreting these types of test results but it is very important that they are able to understand the information given to them about their child and what it means for their child's learning. The Pupil Results Sheet includes notes that explain the presentation of results.

This guidance highlights some key points that may be helpful to practitioners when discussing test outcomes with parents/carers. It is structured around questions that parents/carers may have. Pages 6–8 of this guidance have technical information on the tests that practitioners may find useful. You may also find it useful to refer to the Welsh Government's *Reading and numeracy tests in Wales – 2017: Information for parents and carers of children in Years 2 to 9* at http://learning.gov.wales/resources/browse-all/reading-and-numeracy-tests-information-for-parents-carers/?lang=en.

We have also developed a short film to provide more information on the National Reading and Numeracy Test reports. Please visit http://learning.gov.wales/resources/browse-all/animated-explainer/?lang=en . Schools may find it useful to include links to the guide and the film on the parents'/carers' section of their website.

What are the national tests for?

The national tests give every school in Wales consistent information on reading and numeracy skills for all their learners. The tests are **not** a replacement for other types of assessment used in schools across the whole curriculum. The results from the tests add to the information that schools and teachers already have about achievement in reading and numeracy from their work with learners every day in the classroom.

What is the difference between a teacher assessment judgement and a test result?

Teacher assessment judgements are built up from a large evidence base over time. They can take account of skills demonstrated through observation, oral work, class discussion, extended tasks and projects and during group work, for example. A test result reflects the skills demonstrated through written responses to questions on a given occasion when all learners take the tests under the same conditions. Both types of assessment provide useful, but different, information.

My child's test result seems to contradict the teacher assessment judgement – what does this mean?

Assessments can give contradictory results for several reasons and need to be interpreted carefully. Using outcomes from different assessments can prompt important questions and help to get a clearer picture of strengths and areas for improvement.

If a test result suggests that a learner is demonstrating skills that they do not show during classroom work, then it may be that they need more encouragement to contribute with confidence to oral work and class discussion. If a test result suggests that a learner has not demonstrated all the skills they show in the classroom context, then this might be because the test included questions on topics where their learning is not fully secure or that they do not always show their best work through written responses. All forms of assessment have limitations and that is why best assessment practice draws on a range of different assessment opportunities, including formal tests.

How can a test result help to show where my child needs to improve?

The individual questions in all the National Reading and Numeracy Tests are linked to the expectation statements in the National Literacy and Numeracy Framework (LNF). The LNF sets out annual expected outcomes for literacy and numeracy. Because the tests are marked in school, teachers can see where there are gaps in knowledge and understanding and identify what the next learning priorities should be both for individuals and class groups. (Your school may already be using the diagnostic tools for the reading and numeracy tests published on Learning Wales at http://learning.gov.wales/resources/browse-all/national-reading-and-numeracy-tests-diagnostic-support-tools/?lang=en).

What does the age-standardised score tell me?

(It may be helpful to refer parents/carers to *Reading and numeracy tests in Wales – 2017: Information for parents and carers of children in Years 2 to 9* at http://learning.gov.wales/docs/learningwales/publications/170413-information-for-parents-carers-2-9-en.pdf.)

The age-standardised score from each of the national tests shows how well an individual learner did on the test compared to **other learners of the same age (in years and months)** taking the test.

What is a progress measure?

The progress measures from the national tests show how well an individual learner has done in the tests each year compared to **all other learners taking the test in the same national curriculum year group**. It is possible to compare the progress measure from one year to the next to get a picture of progress over time.

What is the difference between the Numeracy Test (Procedural) and Numeracy Test (Reasoning)?

The procedural tests measure skills in number, measuring and data. The reasoning tests measure how well learners can use what they know to solve problems. It is important for parents/carers to understand that the tests focus on different skills.

Parents/carers might wish to know how their child is performing in reasoning activities within the classroom or how best to support their child in developing these skills.

Should the results of the Numeracy Test (Procedural) and Numeracy Test (Reasoning) be compared?

Learners' results in the reasoning tests may differ from their results in the procedural tests. It is important for parents/carers to understand that the tests focus on different skills. The procedural test measures skills in number, measuring and data; the reasoning tests measure how well learners can use what they know to solve problems.

Why is there no result for one of the tests?

Results should be provided for every test taken by a learner. Where a learner was absent during the test period and unable to take one or more tests, there will be no result. If a decision has been taken by a school that a learner should not take a particular test because they would be unable to access it, then there will be no results[1]. Where a learner has taken a test for a different year group, you may wish to share diagnostic information with their parents/carers.

1 Please note though that in line with Welsh Government policy on inclusion, both absent and disapplied learners will be assigned an age-standardised score of less than 70 for reporting purposes in the Welsh National Tests Data Collection (WNTDC).

My child has achieved the maximum age-standardised score/progress measure possible – do the tests 'set a ceiling' on achievement?

Like any test, the National Reading and Numeracy Tests are specified to assess a particular ability range. Essentially, they are designed to measure the skills in reading or numeracy that would be expected across the year group or year groups nominated for each test. If an individual learner is performing at the top of or above the ability range, their test result cannot accurately determine the limit of their reading or numeracy ability and we can only say that their standardised score is more than the maximum value measured by that test. This does not, however, mean that their progress in reading or numeracy cannot be tracked over time, just that more information than their test scores will be needed to provide a true picture of the progress they are making. Parents/carers may wish to know about any steps being taken to provide their child with more challenging tasks and/or contexts.

Should I compare my child's age-standardised scores from one year to the next?

Essentially, an age-standardised score is a way of comparing one learner's performance in a test to the performance of other learners of the same age at that moment in time. Making direct comparisons of age-standardised scores between years is therefore not recommended. You may be able to see if there have been large changes, e.g. that in one year a learner's score showed that their performance was similar to most learners of the same age (85–115) but in the next year their performance was a little better (maybe 116–125). However, the progress measure is designed to track the achievement of a child over time, and therefore the progress measure rather than the age-standardised score should be used when making comparisons between one year and the next.

Can I use the test scores to check if my child is making progress?

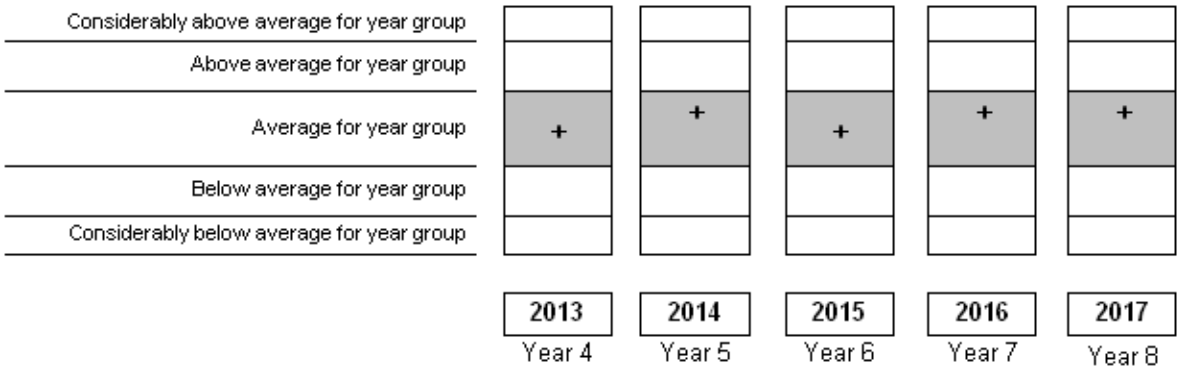
By looking at the chart that shows progress measures from each year the tests have been taken, parents/carers can see how their child's achievement compares to all other learners taking the tests in the same national curriculum year group across Wales. Providing results in this way shows whether or not learners are maintaining their position in the year group over time and helps to identify trends in their performance.

There is a sentence underneath each result that tells parents/carers whether their child's position in the year group is broadly consistent with, higher than, or lower than last year. This is based on annual test information and the change in the learner's progress measure from year to year. Learners who have progress measures that are broadly consistent over time are making progress in line with all the other learners in their year group. Small fluctuations up or down would be expected and could be due, for example, to factors such as personal circumstances on the day of the test or the appeal of a particular test paper. By using information from previous tests it is possible to calculate an expected range for each learner. Anything outside of this

range indicates that the difference is due to a change in performance. If a learner's performance is higher or lower than last year it may suggest that they are making more or less progress than other learners in their year group and may need additional support or challenge.

The sample charts below show some patterns in progress measures.

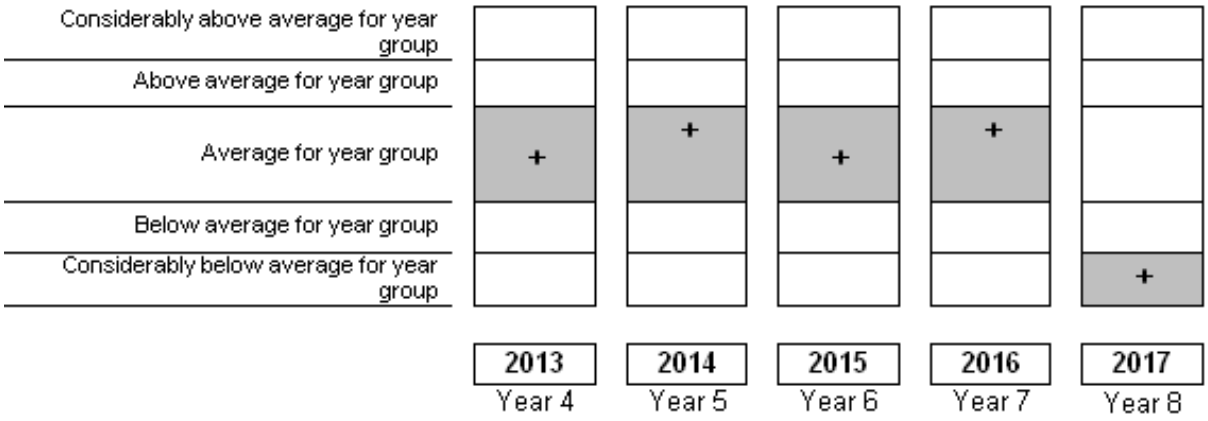
English Reading progress measure



In 2017 your child's position is consistent with their position in 2016.

Now in Year 8, this learner has made progress in line with all other learners in their year group since first taking the tests in Year 4. The slight changes in progress measure each year are to be expected.

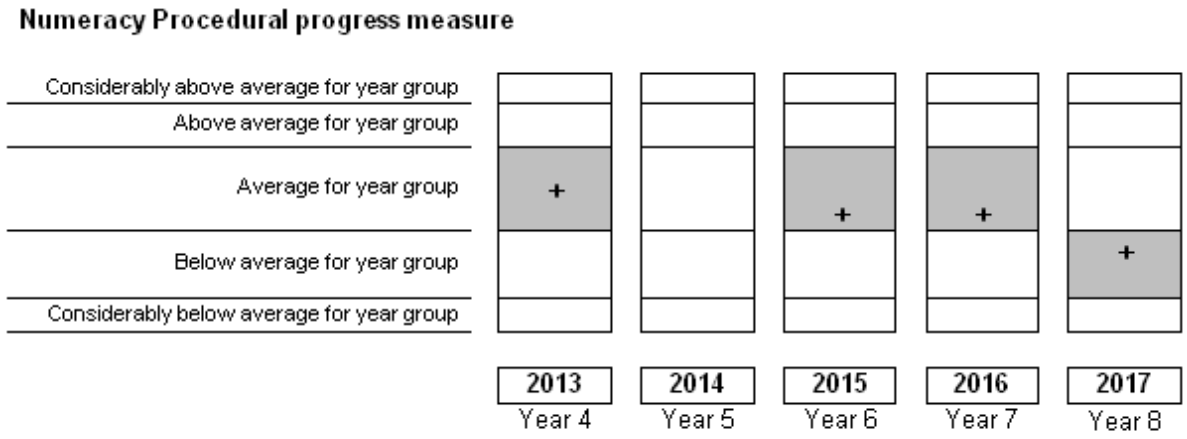
Welsh Reading progress measure



In 2017 your child's position is lower than their position in 2016.

This learner's test results show that steady progress was made in Welsh reading between 2013 and 2016, and the learner was maintaining their position in the cohort up until 2017 where the performance measure dropped. The sentence below the table shows that child's performance measure is outside their expected range. The chart suggests that compared to other learners taking this test in 2017, this learner has not done as well as would have been expected from their previous test results. It

would be worth exploring whether there is any aspect of the curriculum covered in Year 8 that this learner has found particularly challenging.



This learner was absent for the test in 2014 and so it is not possible to get a complete picture of their performance over time. Between 2016 and 2017 their position compared to other learners now in Year 8 has slipped slightly, but the sentence below the table indicates that performance is still within the expected range and it may not necessarily reflect a significant lack of progress. Evidence from teacher assessment would help in identifying whether there is any cause for concern.

Technical information on test scores and scales

Standardised scores such as the age-standardised score and the progress measure for the national tests are commonly used with tests intended to measure the ability of large groups of individuals. This is because just knowing the number or percentage of correct marks on a test paper is not enough to give a full picture of how well a learner or a group of learners has done in their test. For example, it is hard to judge if a test result of 70 per cent is good or not without information about how other learners have performed; if 70 per cent was the highest score when compared to other learners then this is a good result – however, if it is the lowest then it is not a good result. The test results from all schools are analysed to prepare standardised score scales so that meaningful comparisons between individuals and groups can be made.

Age-standardised score
In developing the age-standardised score scale, the average score for each test is set to be equal to a standardised score of 100 and about two-thirds of all learners taking the test would then be expected to have an age-standardised score between 85 and 115. So an age-standardised score of less than 85 might suggest that a learner may be experiencing some difficulty with the reading or numeracy skills tested, and a score greater than 115 might suggest that a learner is showing reading or numeracy skills that are well developed for their age.

Each test is specifically designed for a particular age group and focuses on the range of skills in reading and numeracy that would be expected for that age group; no test can assess an unlimited range of ability. This means that for learners working at the extreme ends of the ability range in their year group, age-standardised scores from the tests cannot really measure the limit of their skills. For example, learners who are developing reading skills much more slowly than others in their year group might have an age-standardised score of 'less than 70'. What this really means is that this test alone cannot provide enough information about their skills in reading or areas where improvement is needed. Parents/carers might wish to know what other information the school can use to inform learning and teaching for these learners so that their needs can be met.

In the same way, learners achieving very highly in the test can only be given an age-standardised score that is 'more than' the maximum score available for the test; we know that they have done very well on this test but we cannot measure how well they might have done if the questions in the test had allowed them to perform to the absolute limit of their ability. Parents/carers might wish to know what other information schools can use to inform learning and teaching for these learners so that they can be confident that they will be sufficiently challenged in future.

Progress measure

The average progress measure for each test is set to be approximately 1000, and about two-thirds of all learners taking the test would be expected to have a standardised score between 980 and 1020 (i.e. scores within one standard deviation of the mean). Learners within this bracket have a progress measure that is in line with their peers in the same year group. Learners scoring outside of this range (i.e. below 980 and above 1020) have a progress measure that is either below that for most learners in their year group or above that for most learners in their year group. In the same way that values of 70 and 140 are minimum and maximum for age-standardised scores, the range for progress measures is 950 to 1050.

When comparing progress measures over time, small changes are to be expected. A learner who is making progress at an expected rate would maintain a broadly consistent progress measure between one time point and the next because they would broadly maintain the same relative position in their year group. A marked rise in the progress measure between time points suggests that they have made more progress than their peers; and a marked fall in the progress measure between time points suggests that they have made less progress than other learners in the cohort.

When comparing test scores at different time points, it is important to remember that small changes are to be expected, therefore judgements on change should be made based on statistical analysis to assess whether the differences seen are significant[2]. Because the national test papers are new for each year, this analysis can only be done retrospectively. For the subjects tested in 2013, 2014, 2015 and 2016 results have been analysed to look at how large a change in progress measure was significant. It is reasonable to use the magnitude of this change as **an indicator** of what is a significant change in progress measure between 2016 and 2017. The new

[2] Statistically significant differences mean that the change in score from one year to the next is unlikely to have occurred by chance.

sentence in the progress measure section of the Pupil Results Sheet which tells a parent/carer if their child's position is consistent with/is higher than/is lower than their position last year is calculated using this statistical significance method.

The values of the progress measures for individual learners are not included in the Pupil Results Sheets but they are available in schools' data files.

There are some cases where progress from year to year cannot be shown. For example, Year 2 learners have only one measurement of their performance and therefore their progress measure cannot be compared over time until Year 3. In some cases learners may not have followed the standard pathway through curriculum year groups; therefore, their position this year cannot be compared with their position last year.