Scottish National Standardised Assessments

National report for academic year 2018 to 2019

Published
January 2020

Australian Council *for* Educational Research

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Contents

Preface

This report has been developed to provide a summary of outcomes at a national level on the 'Scottish National Standardised Assessments' (SNSA) in the 2018 to 2019 academic year, the second year of the programme.

The report provides information on two main areas.

- It shows what SNSA set out to measure, by way of a high-level description of each 'organiser' included within the assessments. The descriptions are exemplified by a small number of questions from each of the organisers, with commentary on learner performance on this sample of questions. None of these items will be used in future Scottish National Standardised Assessments.
- Findings at a national level are reported, showing comparisons across the different organisers within the assessments, and focusing on selected learner characteristics including sex, Scottish Index of Multiple Deprivation (SIMD), ethnic background, free school meals, additional support needs, looked after children at home and away from home, and English as an additional language.

The information in this report is intended to supplement the information already available to schools and local authorities for the 2018 to 2019 academic year, for their own setting, and is intended to provide staff with an insight into learner performance and engagement with the assessment at a national level. Schools and local authorities may benefit from using the information within this report to help determine strengths and areas for future improvement in relation to curriculum delivery, including support or interventions for specific cohorts or groups. In addition, schools and local authorities can make use of the information to identify trends in performance in areas of the curriculum that may benefit from an increased focus on learning and teaching.

This report is not intended to form the basis of an accountability measure against which performance will be tracked over time. The main aim of SNSA is to provide a diagnostic tool that can be used as part of a range of evidence to support teachers' professional judgement of children's and young people's progress in learning. The report is intended to support this aim through the dissemination of findings at a national level.

1 Introduction

1.1 What is SNSA?

In January 2016, the Scottish Government published The National Improvement Framework for Scottish Education (hereafter 'the Framework'). The Framework set out the Scottish Government's vision and priorities for Scotland's children and young people. It was developed to support high-quality learning and teaching – the core principle of Curriculum for Excellence (CfE). Over time, it was intended that the Framework would provide a level of robust, consistent and transparent data across Scotland to extend the understanding of what works, and drive improvements across all parts of the system.

To meet the aims of supporting high-quality learning and teaching for Scottish children and young people, it was determined that gathering data on children's progress at key points in their education, including data on differences between those from the least and most deprived areas, was essential. Improved data of this kind would support the planning of further interventions to ensure that all learners achieve as well as they can. Part of this information would be provided by SNSA.

The assessments have been available for use in publicly funded schools in Scotland since August 2017. They are administered to children and young people in Primary 1, Primary 4, Primary 7 and Secondary 3 (P1, P4, P7 and S3) across Scotland, once in each school year at any point in time. Reports to schools and teachers are provided as soon as a learner completes an assessment. Additional reports are available for local authorities. This national report presents a description of what SNSA set out to measure, and some findings from the second year of the programme.

Outcomes from Scottish National Standardised Assessments provide one source of evidence as part of a range of evidence to support teachers' professional judgement of children's and young people's progress in learning. SNSA have been developed with the Australian Council for Educational Research (ACER). ACER's approach to learning assessments is that they should assist in:

- clarifying starting points for action
- investigating details of learner learning and performance
- monitoring improvements and evaluating educational interventions
- motivating effort and encouraging self-monitoring
- providing feedback to guide future action.[1]

The user reports provided for SNSA support a number of these points by providing teachers, school leaders and local authorities with diagnostic information about learners' strengths and areas of challenge that can be used to plan next steps in learning. Alongside other assessment evidence, the information reported in SNSA can also be used to inform teachers' professional judgement on achievement of CfE levels. A central aim of SNSA is also to provide information on the outcomes of Scottish children and young people in literacy and numeracy over time.

[1] Masters, G.N. (2013). Reforming Educational Assessment: Imperatives, principles and challenges. *Australian Education Review* 57. Melbourne: Australian Council for Educational Research.

1.2 Key features of SNSA

The SNSA programme has a range of important and innovative features:

- it is delivered online

Children and young people complete the assessments using a digital device: a desktop computer, laptop or tablet. The assessments are delivered online and, because all items (questions) are scored automatically, teachers can access their learners' reports as soon as an assessment is completed.

SNSA are designed to be administered on a range of devices, including desktop PCs, laptops and tablets, and delivery on the most commonly available browsers is supported. This flexibility in mode of delivery is designed to support administration of SNSA across a range of different classroom settings, enabling schools to choose the method of presentation that best suits them. An online tool to assess technical readiness is available. This tool can be applied in advance of the device being used for the assessments, to ensure that the assessments function as expected. With this flexibility of delivery, the content of the assessments, within the adaptive design model, remains consistent.

- it is adaptive

The questions presented to children and young people vary according to how well they are performing on the questions they have answered so far. All learners begin an assessment with a set of questions of middle-level difficulty. If a learner does well on these, the next set of questions presented will be more challenging. If a learner is not succeeding on early questions, the items become easier – and so on, through the assessment. The adaptive nature of SNSA means that the experience for each learner is modified so that the assessment is neither too hard nor too easy but appropriate for their current level. The adaptive design also means there are increased opportunities to benefit from the diagnostic value of the assessment. An assessment is most useful as a formative tool when there are no 'floor' or 'ceiling' effects. A 'floor effect' occurs when an assessment is too hard, so it tells only what a learner cannot do. If this happens, it is impossible to see a starting point on which future learning can build. A 'ceiling effect' occurs if an assessment is too easy and a learner gets every question right. When this happens, it is impossible to judge the upper reach of their attainment and thus to help this learner make the next step. The adaptive design, when working well, enhances the learner's experience of the assessment and serves to support identification of where children and young people are in their learning development.

- it has a carefully judged number of questions per assessment

Each assessment has from 30 to 36 scored questions, with the number of questions increasing from Primary 1 to Secondary 3. These numbers of questions allow coverage of different aspects of each of the assessed subject areas, without excessive time being required by any learner. On average, in the 2018 to 2019 academic year, children and young people completed each of the assessments within 30 to 40 minutes (less than 30 minutes for Primary 1 children). However, there is no time limit for completing SNSA and, where a teacher judges it necessary, a child or young person may take a break and come back to pick up the assessment where he or she left off. To note, with effect from the 2020 to 2021 academic year, there will be 27 scored questions in the P1 literacy assessment.

Each question in the assessments has been tested empirically to make sure it 'works'. Before being included in SNSA, every question has been presented to several hundred learners of a similar age and stage to the ultimate respondents, to ensure that it has sound measurement characteristics and will yield statistically consistent outcomes. In addition, every question has been reviewed and signed off by a panel of experts from within Education Scotland.

- responses are scored objectively

The majority of questions in SNSA are in 'selected response' format, mostly multiple choice. The advantages of this format are both educational and technical. First and foremost, it is an advantage that all responses are marked consistently, so there is no question about the reliability and standardisation of the outcomes at the question level. A second advantage, in terms of curriculum, is that, because learners can complete questions relatively quickly, a wider range of curriculum content can be covered in a limited time than would be possible if children have to generate their responses. A third advantage is that the assessments can be marked instantly, allowing the allocation of assessment items of an appropriate difficulty level within the adaptive design. Additionally, reports can be accessed as soon as an assessment is completed, so teachers can use the formative feedback immediately. There is, of course, much to be learned about children's understanding and skills from other modes of assessment, from short written responses to essays or projects and performances. However, assessments using selected response formats serve the purposes of SNSA well in its role as one element in the wider array of assessments that teachers will use to evaluate children's and young people's learning.

Other features of the SNSA programme are specific to the Scottish education context.

- it covers agreed elements of Curriculum for Excellence

The assessments have been constructed to align with CfE. For the academic year 2018 to 2019, the final version of the *Benchmarks* (published in June 2017) is used as the reference point for the assessments, along with CfE Experiences and Outcomes. The content areas covered are described in more detail in the sections of this report dedicated to numeracy, reading and writing.

- it has a flexible delivery model

The flexible delivery model is intended to allow children and young people to be assessed at any time in the school year that is judged suitable for the school, class and individual learner. A consequence of the flexible timing is that, when interpreting the outcomes of the assessment at individual, class, school, local authority or national level, the point in the school year that the assessment was taken needs to be taken into account.

There is clear evidence from the norming studies conducted during the academic year 2017 to 2018, in November and March, and from the whole year's attainment levels per stage, that children's and young people's outcomes – their literacy and numeracy skills, knowledge and understanding – develop progressively, on average, over the 10 (effective) months of an academic year. Amongst the stages presenting for SNSA, children in Primary 1 showed a marked increase in outcomes in both literacy and numeracy: this can be seen when comparing outcomes from 2017

(August to December) with those from 2018 (January onwards). The same pattern was observed for P4, P7 and S3, across all subject areas, but with diminishing increases in performance in 2018 for each successive stage. Within each stage, the rate of improvement between the first half and second half of the 2018 to 2019 academic year was similar, regardless of subject area.

While the findings described above might be as expected, they also constitute a positive outcome, confirmed empirically with SNSA data. However, given the possibility of administering SNSA throughout the school year, outcomes from all learners should be interpreted with some caution when making any comparative judgements about individuals or groups. Each learner is presented only once and, because the timing of SNSA was determined locally (except for the norming studies that took place in 2017 to 2018), it cannot be assumed that the profile of children and young people who presented in the first half of the school year was the same as that of those who presented in the second half. For example, it is possible that teachers chose which learners should sit the assessment based on their judgement of their learning progress.

- it is designed to be accessible to all learners

To support learners when completing the assessments, the system is designed to be compatible with a range of assistive devices, so that learners can use the devices with which they are familiar from everyday use in the classroom, including software and devices such as text readers, screen readers and switches. In the case of screen readers, the assessments have been developed to include alternative text descriptions of images, charts and graphs that are integral to answering a question. Detailed guidance is available for teachers in relation to additional support needs (ASN) and English as an additional language (EAL). The information gathered from across the school year, on which the analysis within this national report is based, includes data from learners with ASN and EAL.

1.3 Reporting SNSA outcomes

In the academic year 2018 to 2019, six capacity bands were used in reporting the outcomes of SNSA to schools and local authorities, and they are also used in this report.

1.3.1 Reporting on learner outcomes

The reports available to schools and local authorities for SNSA 2018 to 2019 provided diagnostic information about each question presented to an individual or group of children or young people. This diagnostic information showed, for each question, the organiser to which each question belonged, the skills, knowledge and understanding assessed and the question's difficulty, as well as the individual's or group's outcomes against the question. This diagnostic information provides one piece of evidence to help the education profession identify areas of strength or challenge at the individual learner level or for groups.

Another key feature of the reports for schools and local authorities was information about learners' overall outcomes. Each stage's outcomes were reported in six bands. The outcomes of learners who achieved only a small degree of success on the assessment was reported in the lower bands. Similarly, the outcomes of learners who achieved a substantial degree of success on the assessment were reported in the top bands. These bands were related to regions of learner outcomes on the

assessment that were specific for each subject area and stage, and each region for each of the eleven SNSA had a corresponding description unique to that assessment. These descriptions were based on a summary of the skills, knowledge and understanding assessed in the questions included in this assessment in the academic year 2018 to 2019, which, in turn, were aligned with the *Benchmarks*. The region descriptions for each assessment and stage are shown in Appendix 5: Band descriptions from the 2018 to 2019 individual reports.

On an individual report, the learner's outcomes are located against these descriptions to show the kinds of skills, knowledge and understanding he or she demonstrated in the particular assessment.

The bands have a specific and different meaning for each of the assessments, according to subject area and stage. Accordingly, the dot on an individual's report, locating the learner's outcomes, shows what kinds of skills, knowledge and understanding he or she demonstrated in the particular assessment, rather than any fixed judgement about the learner's aptitude.

For the 2018 to 2019 academic year, the newly established bands corresponding to the SNSA long scale allow comparisons across stages in terms of proportions of learners with outcomes at each band.

The outcomes on the assessment of an individual, a class or a school are intended as one piece of evidence – a fair and objective piece of evidence – in an evaluation of learners' progress in literacy and numeracy. The holistic outcome on the assessment is intended to be used by teachers to corroborate or, sometimes, to raise questions about, other reference points in their overall assessment of a learner's progress.

Figure 1 shows an example extract from an individual report (for a fictitious learner) for the Primary 7 Numeracy assessment for 2018 to 2019. To the left is a scale labelled 6–11, accompanied by the band description text referred to above, for each of the bands. The easiest content is summarised in the paragraph at the bottom and the most difficult summarised in the paragraph at the top.

Numeracy

INDIVIDUAL REPORT

NAME Shannon Barker

SCHOOL Canfield School

DATE 17/10/18

ASSESSMENT Primary 7 Numeracy 2018-19

ASSESSMENT SUMMARY

Overall, Shannon has shown Band 6 and below capacity on the P7 Scottish National Standardised Assessment for Numeracy.

In the context of overall Band 6 and below capacity, Shannon has performed as appropriate in *Number*, *Measurement, time and money* and in *Information handling*. Shannon needs to concentrate on developing skills in *Fractions, decimal fractions and percentages*.

The next page of this report gives more detail about Shannon's performance on individual questions.

OVERALL CAPACITY DEMONSTRATED

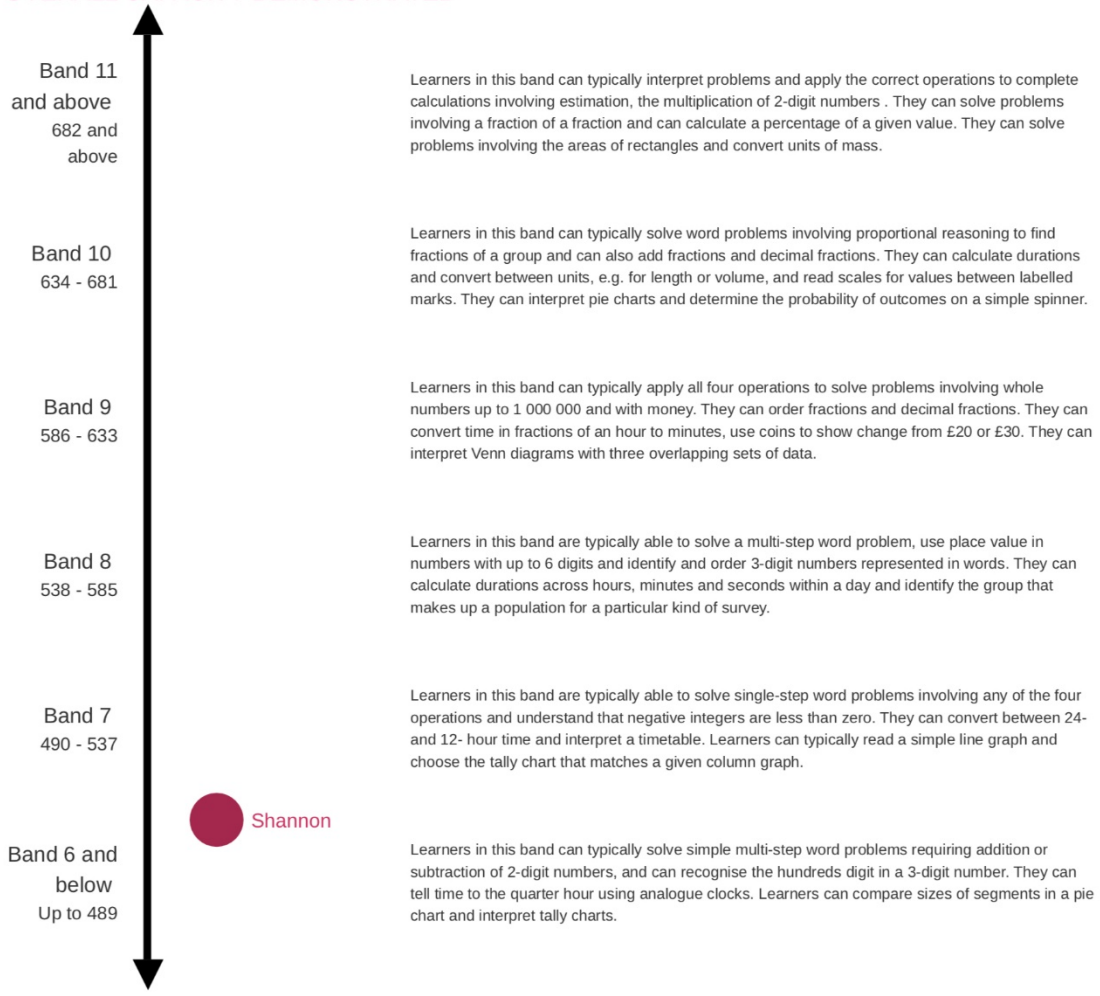


Figure 1: Example page from an Individual report

1.3.2 Reporting on question difficulty

Just as each learner's overall outcome was expressed as a capacity band, each question in the assessment was also categorised as belonging to a certain band of difficulty. A question categorised as having the lower band difficulty in SNSA was one that learners of this age and stage generally tended to be more likely to answer correctly. A question categorised as having the middle bands' difficulty was one that fewer learners were able to answer correctly. A question categorised as having the top bands' difficulty was one that relatively few of the learners were able to answer correctly. The ratings of question difficulty appeared next to a brief description of each question on reports to schools, to support a diagnostic interpretation of the challenge of the questions presented to the individual child or young person.

More detail about the content of the assessments is provided in the subject area sections of this report.

1.4 The second year of SNSA

The 2018 to 2019 academic year was the second year of implementation for SNSA, and 577,385 assessments were completed across Scotland over the course of the year. This number is equivalent to about 93.4% of the possible maximum number of assessments available for children and young people in P1, P4, P7 and S3, which is a small decrease on the 2017 to 2018 academic year.

The metric on which SNSA was reported in the 2017 to 2018 academic year was not standardised for the Scottish population. A broad categorisation of attainment as high, medium or low was used in this first year, based on data from international contexts. A more refined scale for each subject was developed towards the end of the first year of assessments. The scale was standardised by drawing on the outcomes from two representative samples of Scottish children and young people presenting for SNSA, assessed in the first and second halves of the 2017 to 2018 academic year. An equating study was conducted with the groups P2, P3, P5, P6, S1 and S2, the stages in between those that form part of SNSA (P1, P4, P7 and S3), in order to equate all SNSA years onto a single scale. These new 'SNSA long scales' have been used for reporting from August 2018 onwards.

The Scottish Government's policy and practice of continuous improvement applies not only to educational attainment but also to the SNSA programme itself. Enhancements to content, reporting, the system delivering the assessments and the professional training courses accompanying the assessments were introduced during the 2018 to 2019 academic year, and further improvements will be implemented over the coming years. An example of this is the 'Outcomes by Academic Year' report (OBAY), which will be introduced during the 2019 to 2020 academic year. This is an additional tool that will support schools and local authorities in considering children and young people's outcomes by presenting results for different academic years alongside each other.

2 Numeracy

2.1 The scope of the numeracy assessment

2.1.1 Numeracy for P1, P4, P7 and S3

There were separate assessments of numeracy for P1, P4, P7 and S3. The same set of organisers was used for each of the assessments, with the proportion of items in each organiser varying by stage to reflect the change in emphasis on each area within Curriculum for Excellence (CfE).

2.1.2 Alignment with Curriculum for Excellence

In the academic year 2018 to 2019, the final version of the *Benchmarks* (published in June 2017) is used as the reference point for the assessments.

2.1.3 A note on contexts used in the numeracy SNSA

For numeracy assessments within SNSA, a wide variety of simple contexts was used. Typically, questions were short and discrete, so contexts were relatively straightforward in nature, covering a mix of everyday life and the school environment. In a small number of instances, two questions in an assessment referred to the same chart or graph.

All questions were reviewed by Education Scotland for their appropriateness to the Scottish context, prior to inclusion in the assessments.

2.2 Coverage of Curriculum for Excellence: Benchmarks and organisers

SNSA is just one part of the range of assessments that teachers use in making their evaluations of children's and young people's learning. It has been possible to assess most areas of the numeracy Benchmarks within this standardised assessment, using closed response questions that can be automatically marked. It is important to note that, although it is possible to assess all areas of the numeracy Benchmarks through the assessment, the assessments comprise between 30 and 36 questions per learner, according to stage. It is not possible to assess every aspect of the numeracy Benchmarks for a stage within this number of questions. As a result, there will be variation in specific areas assessed in different assessments. Through consultation with Education Scotland staff with a numeracy background, it was agreed that the numeracy assessments should be based on the following organisers: Number; Fractions, decimal fractions and percentages; Measurement, time and money; and Information handling. Each of the questions selected for inclusion in SNSA numeracy assessments for the academic year 2018 to 2019 is aligned with numeracy elements of the *Benchmarks: Numeracy and Mathematics*. To note: although mathematics Benchmarks are included within the Curriculum for Excellence document *Benchmarks: Numeracy and Mathematics,* these are not assessed within SNSA, since the numeracy assessment only assesses the numeracy Benchmarks.

All four organisers were represented in the P1, P4, P7 and S3 numeracy assessments, with different proportions across the stages. In the reports provided to schools, teachers received information about the outcomes of the learner at the organiser level, if the learner was presented with at least five questions from that organiser. Similarly, in this report, outcomes for organisers that were addressed by at least five questions in each learner's assessment are analysed. In the case of numeracy, all four organisers are reported on here for each of the assessments, apart from P1.

2.2.1 Number

The main focus of this organiser is understanding the properties of numbers and the ability to use the four basic number operations. It included questions that asked about estimating and rounding; number and number processes; addition, subtraction, multiplication and division; and place value. In P7 and S3, negative numbers were also assessed. This organiser could be regarded as containing some of the basic building blocks of numeracy: the ability to engage with content in the other organisers is dependent to some extent upon the ability to understand place value and properties of number, as well as being able to understand and use the four basic operations of addition, subtraction, multiplication and division.

Figure 2 shows a typical question reflecting the Number organiser for the P1 numeracy assessment. Note that the 'mouth' icon indicates to the learner that there is a voiced component to the question.[2] In this case, by clicking on the icon, the child heard the full onscreen question text contained in the dialogue balloon. Please note that the question included in Figure 2 and all subsequent figures throughout this report are not included in any of the current assessments for the 2019 to 2020 academic year, and they will not be included in any future SNSA.

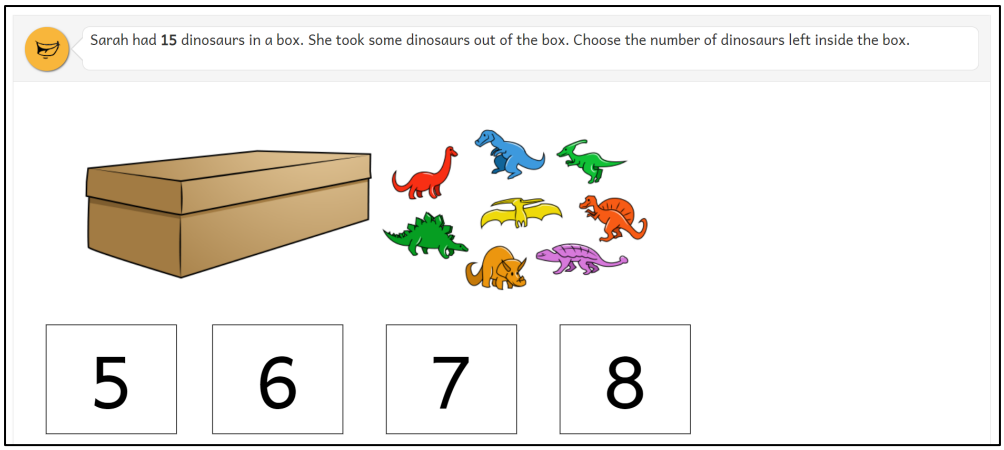


Figure 2: Example of a P1 Number question: assessing ability to solve missing number problems

[2] P1 children were shown how to use the 'mouth' icon in practice assessments. It is used throughout the literacy and numeracy assessments for this stage.

This question is designed to assess children's ability to solve word problems with missing numbers. As is common in number problems for this age group, the question is scaffolded with the inclusion of an image with countable objects. This enables children to use a counting strategy to solve the problem.

Figure 3 shows a difficult Number question from the S3 numeracy assessment for the academic year 2017 to 2018. It builds on young people's existing knowledge of place value in whole numbers to assess their understanding of place value in decimal numbers.

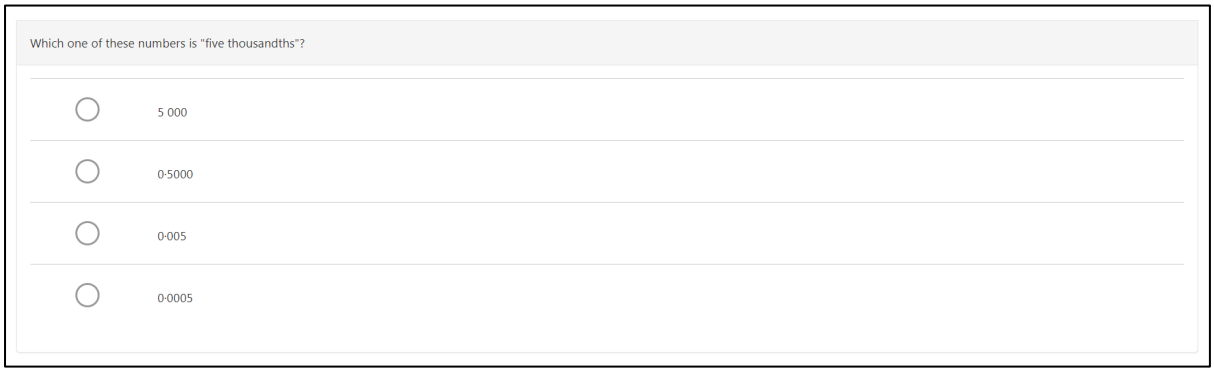


Figure 3: Example of an S3 Number question: assessing understanding of place value in decimal fractions

In this question, young people were asked to choose the correct numerical representation of a decimal number presented in word form. The answer options have been selected carefully to represent some of the most common errors that young people make in relation to place value in decimal numbers. For example, the second answer option is based on the misunderstanding that digits to the right of the decimal point behave identically to the whole numbers to the left of the decimal point, so this number will be regarded by some young people as zero point five thousand. The first and second options were the most common answers among the learners showing a lower outcome over the whole assessment, with the third option (the correct answer) and fourth option being more commonly chosen by learners showing a higher outcome overall.

2.2.2 Fractions, decimal fractions and percentages

The main focus of this organiser is on the ability to recognise and work with fractions, decimal fractions and percentages. At P1, this involves sharing objects into equal sets and recognising representations of halves. By P4, children were asked to recognise standard fraction notation for common fractions, order fractions by size, and recognise pictorial representations of fractions. In the P7 assessment, children were also assessed on their current capacity to work with decimal fractions and percentages, recognise equivalent values in the different forms, and find fractions and percentages of a quantity. At S3, young people were also assessed on their current capacity to work with ratios.

In the assessments for the higher stages, there was an increase in the number of questions assessing this organiser. This shift in the assessments' weightings reflects learners' increasing familiarity with whole numbers, and the transition to applying their understanding of how to calculate with whole numbers to their growing understanding of Fractions, decimal fractions and percentages.

Figure 4 shows a difficult Fractions, decimal fractions and percentages question focusing on percentages from the P7 numeracy assessment for the academic year 2017 to 2018.

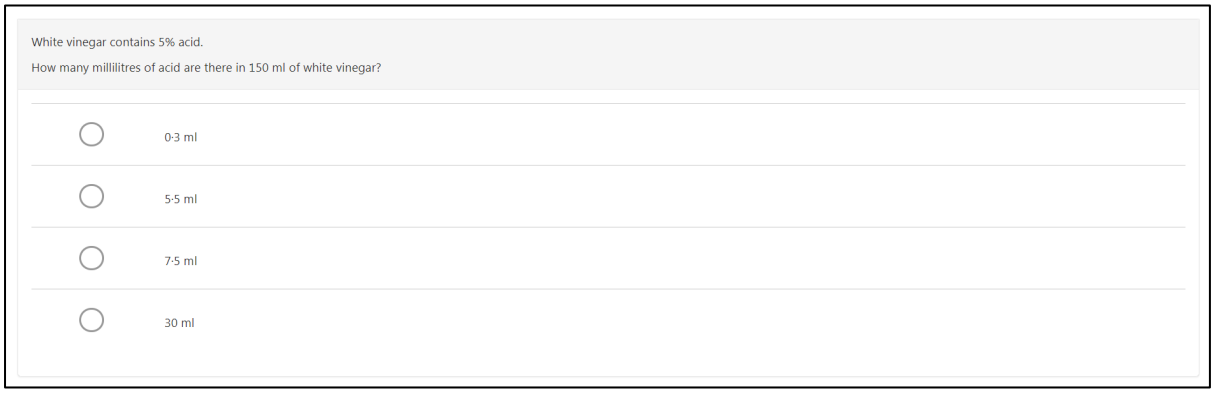


Figure 4: Example of a P7 Fractions, decimal fractions and percentages question: assessing ability to find a percentage of a quantity

This question asks children to calculate a given percentage of an amount. The use of 5% as the percentage in the question prompt enables children to use a variety of approaches to solving the problem. The most likely strategy would be the standard approach of dividing by 100 and then multiplying by five; alternatively, children may make use of known facts to divide by 10 and then halve. The use of vinegar as a context enables children to demonstrate that they are able to apply their knowledge to situations where they may not have previously worked with percentages.

Figure 5 shows a Fractions, decimal fractions and percentages question from the middle of the difficulty range for the S3 numeracy assessment for the academic year 2017 to 2018.

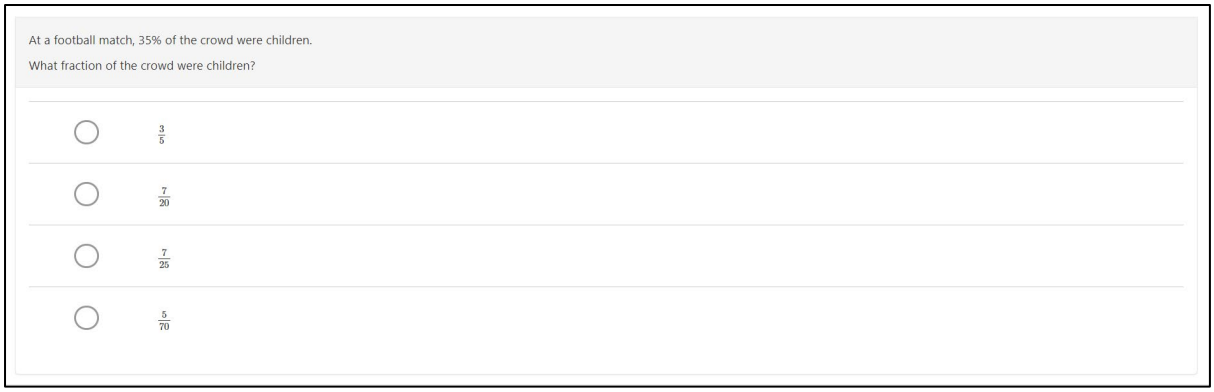


Figure 5: Example of an S3 Fractions, decimal fractions and percentages question: assessing conversion of a percentage into an equivalent fraction

This question is set in a simple context and asks young people to find a fraction that is equivalent to 35%. Since none of the denominators for the answer options are 100, young people demonstrated their understanding of simplifying fractions when successfully answering the question. In this case, they had to recognise that for 35/100, both the numerator and denominator are divisible by five.

2.2.3 Measurement, time and money

This organiser draws together the numeracy Benchmarks that cover measurement, time and money. The measurement strand of SNSA progresses from comparing and ordering, and the use of non-standard units of measure at P1, to the use of standard units, reading scales and estimation, and calculating areas by counting squares or other methods at P4. At P7, children are expected to be estimating using standard units of measures and calculate areas of squares, rectangles and right-angled triangles. By S3, young people were asked to demonstrate that they could calculate other areas and volumes and convert between standard units of measure. Money at P1 and P4 focused on the recognition of coin values and calculating change, with P4 additionally covering accurate use of pounds and pence notation. At P7 and S3, budgeting, calculating profit and loss, and currency conversion also featured. Time covered areas such as reading clock times, interpreting timetables, calculating time durations and speed/distance/time calculations, as appropriate for each stage.

Figure 6 shows a question from the middle of the difficulty range for the P4 numeracy assessment for the academic year 2017 to 2018, reflecting the measurement aspect of the organiser.

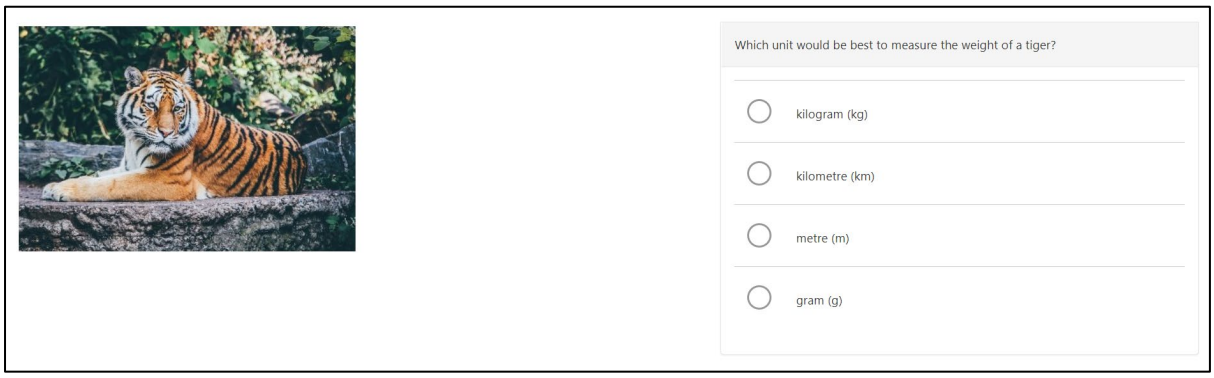


Figure 6: Example of a P4 Measurement, time and money question: using standard units of measure

The focus of this question is on identifying an appropriate unit of weight. This might be regarded as a less familiar style of question, since the majority of measurement questions focus on calculating values. Nevertheless, being able to recognise units of mass and then choose the most appropriate unit for a context is an important skill. The most commonly chosen answer was the correct answer; this was true across the whole capacity range for the assessment. However, a reasonably high proportion of children at the lower bands chose units of length rather than mass, suggesting a limited understanding of standard units of measure.

Figure 7 shows a typical P1 numeracy question, reflecting the time aspect of the organiser.

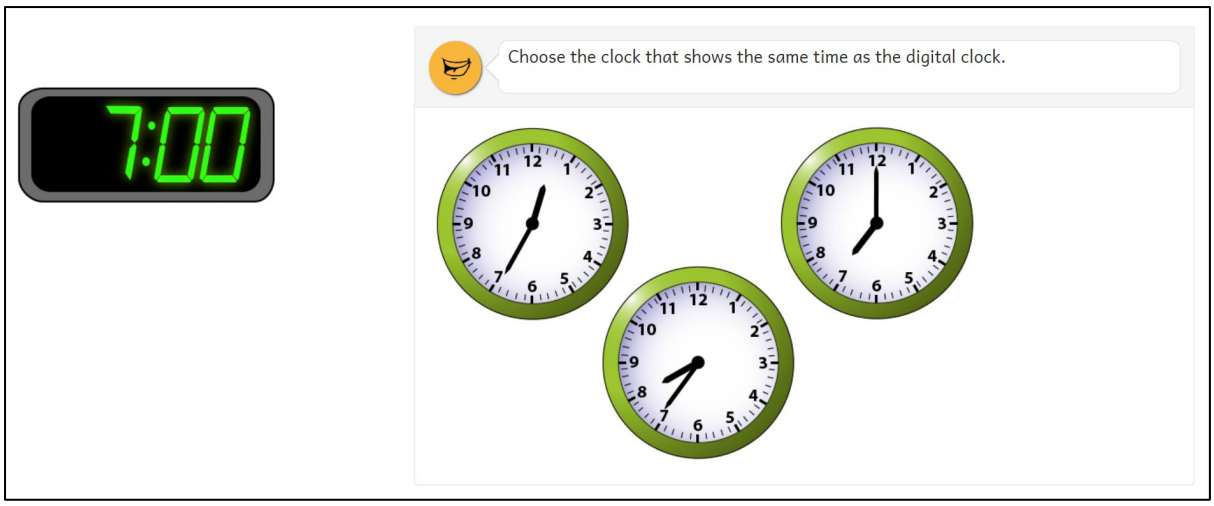


Figure 7: Example of a P1 Measurement, time and money question: assessing ability to read digital and analogue clock times

This question is designed to assess children's ability to recognise and read o'clock times in both digital and analogue formats. In this instance, children were asked to select the analogue clock which shows the same time as the digital clock. Typically, in SNSA and other assessments for this age group, learner's understanding of analogue clocks correlate less well with overall capacity in numeracy than is the case for many other aspects of numeracy. As such, typically, there is less of a difference in outcomes for learners working across the capacity range than for other areas of numeracy. This may be due to experiences outside of school that affect children's understanding of this aspect more than in other areas of numeracy.

Figure 8 shows a question from the middle of the difficulty range for the P1 numeracy assessment for the academic year 2017 to 2018, reflecting the money aspect of the organiser.

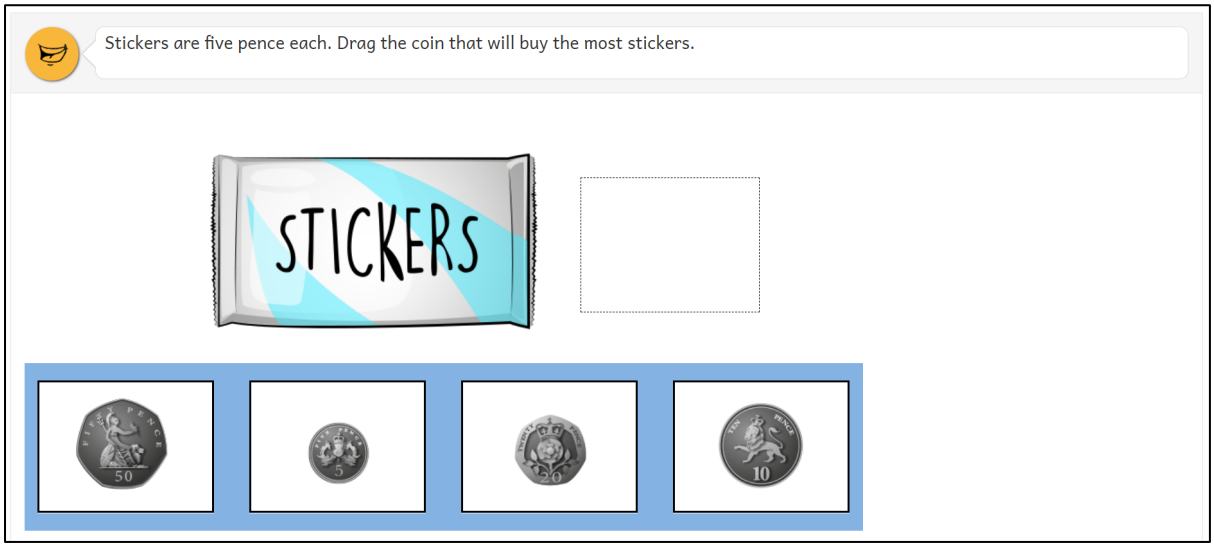


Figure 8: Example of a P1 Measurement, time and money question: assessing understanding of coin values

This question is designed to assess recognition of coin values and it also assesses the ability to compare and order values. Retaining and processing both pieces of information in a two-step problem adds an additional level of challenge.

2.2.4 Information handling

The main focus of this organiser is on data and analysis. It involves the use and interpretation of a wide range of increasingly complex tables, charts and graphs. At P1, this begins with sorting and categorising objects according to specified criteria. Forms of data presentation that are assessed include Venn and Carroll diagrams, tally charts, tables, block graphs, bar graphs, line graphs and pie charts; types of charts that are covered vary according to stage. Scales on the charts progress in complexity from those numbered in ones to having scales where not all values are marked. From P4 onwards, elements of probability, as detailed in the 'chance and uncertainty' Benchmarks, are also assessed. This includes the language of chance and also the use of the 0 to 1 probability scale.

Figure 9 shows a question from the middle of the difficulty range for the P4 numeracy assessment for the academic year 2017 to 2018, reflecting the data and analysis aspect of the organiser.

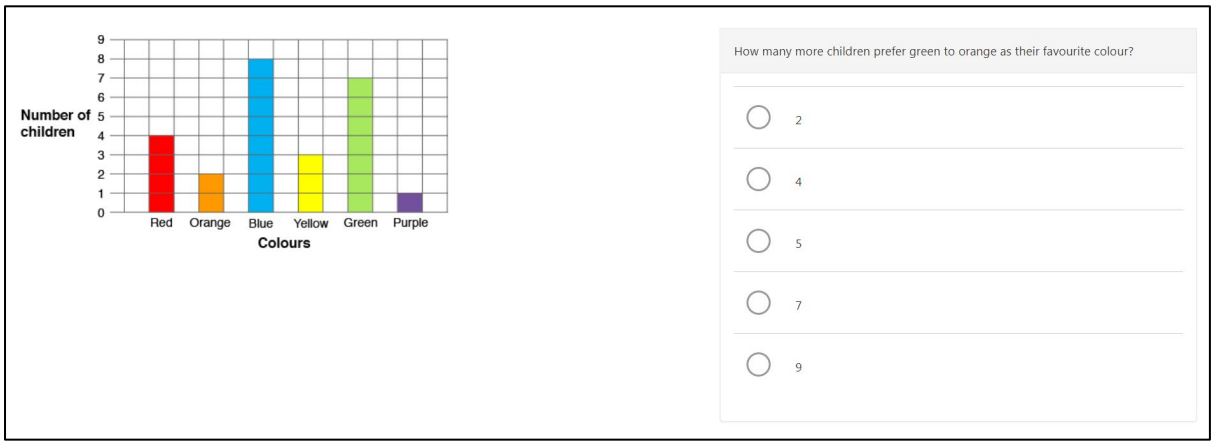


Figure 9: Example of a P4 Information handling question: comparing values on a block graph

This question shows a simple column graph where the scale is numbered in ones. For this stage, data from multiple SNSA questions demonstrate that the ability to successfully make comparisons is challenging. Among lower-outcome learners, the fourth option (7), which represents the number of children who chose green, was by far the most common answer, with the third option (5, the correct answer) typically selected only by learners who showed high outcomes overall. Although the presentation of the data is relatively straightforward, this suggests that the need to both read values from the graph, and then make a comparison, added a significant level of challenge.

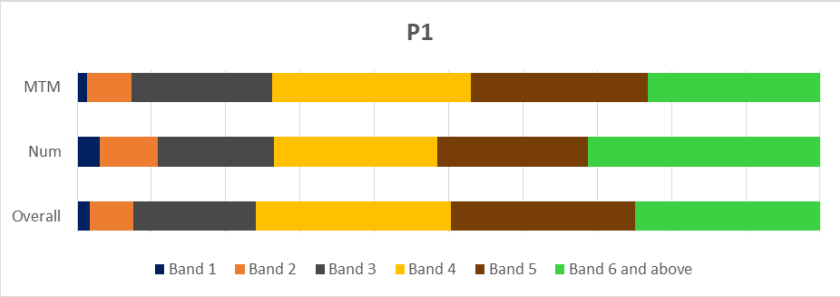
2.3 National outcomes for numeracy

2.3.1 Overall outcomes

Charts 1a to 1d show, for each stage (P1, P4, P7 and S3), the overall outcomes of all learners for numeracy. These charts also show the outcomes of all learners categorised by each of the four organisers: Number (NUM); Fractions, decimal fractions and percentages (FDP); Measurement, time and money (MTM); and Information handling (IH). The shaded regions on the charts show outcomes across the six capacity bands that are specific to each stage, in line with SNSA reports for the academic year 2018 to 2019.

The charts for P4, P7 and S3 learners include outcomes across six capacity bands. For each stage, the two middle capacity bands had the largest proportions of learners, followed by the second-largest proportions found in the top two capacity bands.

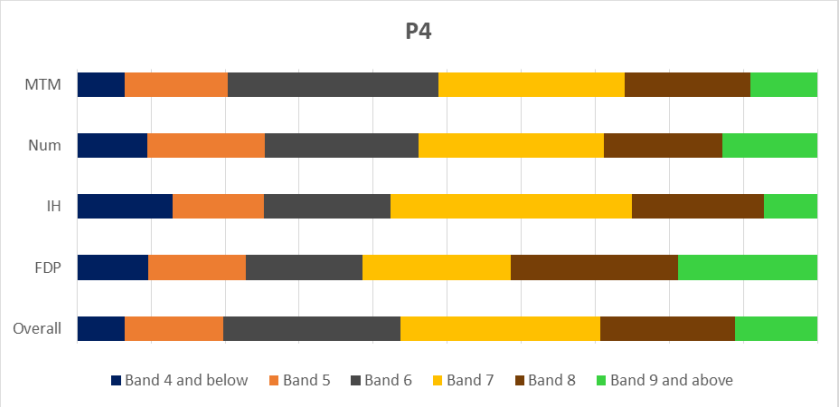
Chart 1a: Numeracy outcomes for P1



For P1, the largest proportions of learners had outcomes corresponding to the top two capacity bands, while the second largest proportions demonstrated outcomes in the middle two bands. At P1, the majority of children achieved outcomes in the top two bands overall, with most of the others having outcomes in the two middle bands. Only very few children had outcomes in the lower two bands.

The majority of children in P1 showed outcomes in the top two bands with regard to all organisers. Across the organisers, few children had outcomes corresponding to the lower two capacity bands.

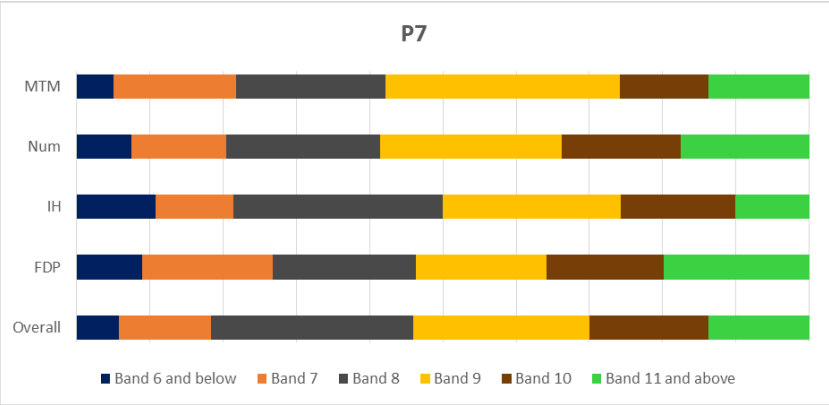
Chart 1b: Numeracy outcomes for P4



Overall, at P4, a majority of learners achieved outcomes in the two middle bands, while lower proportions achieved outcomes in the two highest and the two lowest bands.

For the organisers Number and Information handling, about half of learners or somewhat fewer demonstrated outcomes in the middle two bands. For the organiser Fractions, decimal fractions and percentages, relatively large proportions of P4 learners, albeit still fewer than half, achieved outcomes in the two upper bands. For the organiser Measurement, time and money, the majority of P4 learners achieved outcomes in the two middle bands. Across all organisers, a small minority of P4 learners had outcomes in the two lowest capacity bands.

Chart 1c: Numeracy outcomes for P7

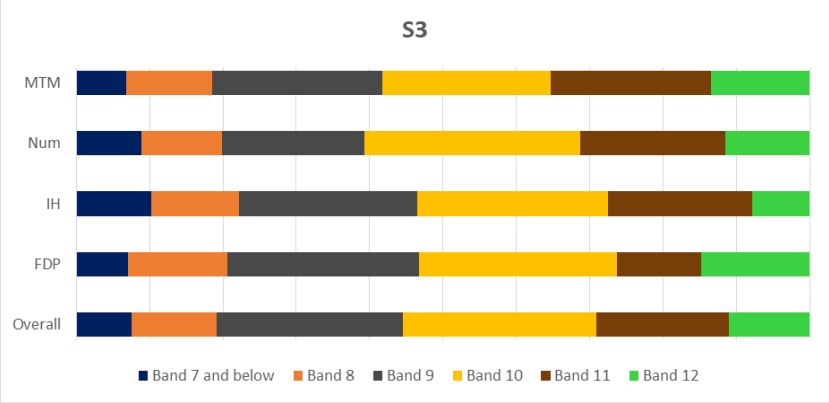


Overall, more than half of learners at P7 achieved outcomes in the middle two bands on their numeracy assessment, while smaller proportions achieved outcomes in the lowest two bands.

For the organisers Information handling and Measurement, time and money, a majority of children in P7 had outcomes corresponding to the two middle capacity bands. For the other two organisers (Number and Fractions, decimal fractions and percentages), less than half of the learners achieved outcomes in the two middle bands, while more than a third achieved outcomes in the two highest bands. Across

all four individual organisers, relatively few learners had outcomes corresponding to the lowest two capacity bands.

Chart 1d: Numeracy outcomes for S3



At S3, more than half of the learners achieved outcomes corresponding to the two middle bands on their numeracy assessment, while only smaller proportions demonstrated outcomes corresponding to the lowest two bands.

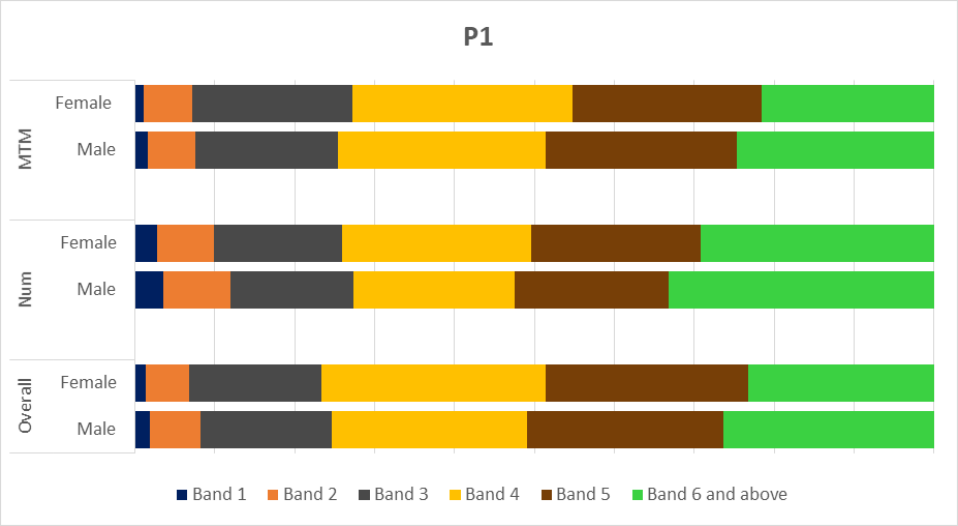
For the organisers Information handling and Fractions, decimal fractions and percentages, half or more of the learners at S3 achieved outcomes corresponding to the two middle bands. For the other two organisers, somewhat higher proportions of learners achieved outcomes corresponding to the highest two bands. Across all organisers, relatively low proportions of learners at S3 showed outcomes in the lower two capacity bands.

2.3.2 Sex

Charts 2a to 2d show numeracy outcomes for boys and girls for each stage. Outcomes are given for numeracy overall and also by organiser.

For P1, overall, about half of boys and girls had outcomes corresponding to the top two capacity bands. For P4, P7 and S3, much lower proportions of boys and girls had outcomes in the upper two bands. For these stages, most boys and girls had assessment outcomes corresponding to the two middle capacity bands. Across all stages, only small percentages of girls and boys had outcomes in the two lowest bands.

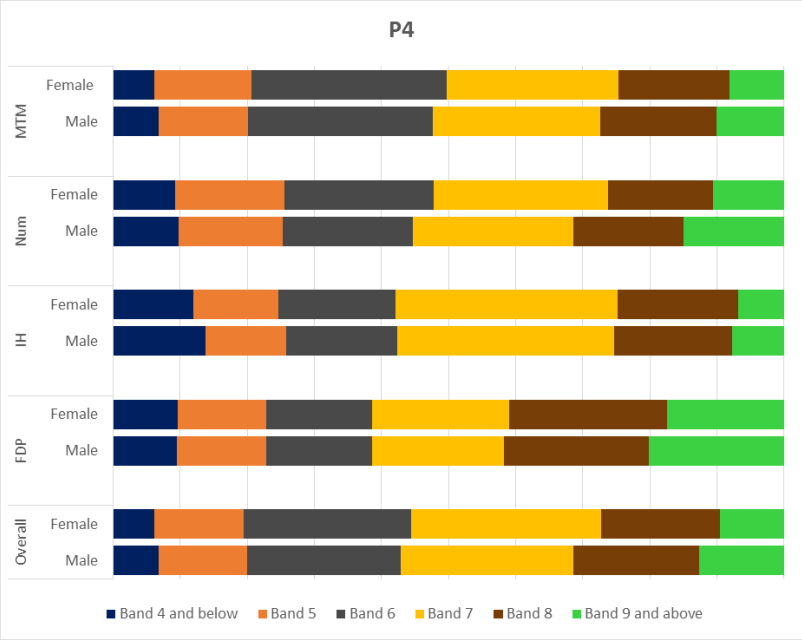
Chart 2a: Numeracy outcomes distributed by sex for P1



At P1, there was a slightly higher proportion of boys than girls who achieved outcomes in the two lower bands and the two upper bands. The proportion of girls achieving outcomes in the two middle bands was slightly larger than among boys. This pattern was consistent for the numeracy assessment as a whole and when the individual organisers are considered.

Differences in assessment outcomes between boys and girls were generally small, regardless of whether the whole numeracy assessment or only specific organisers were considered. Both boys and girls mostly had outcomes corresponding to the top four capacity bands.

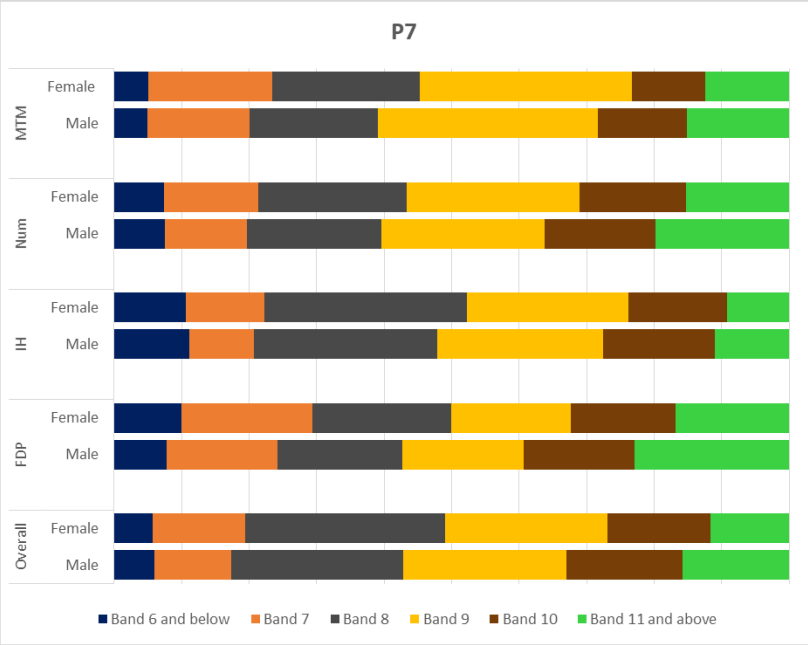
Chart 2b: Numeracy outcomes distributed by sex for P4



At P4, slightly more boys than girls achieved an outcome in the top two capacity bands, while a higher proportion of girls achieved an outcome in the two middle bands. The outcomes are similar when reviewing each organiser separately.

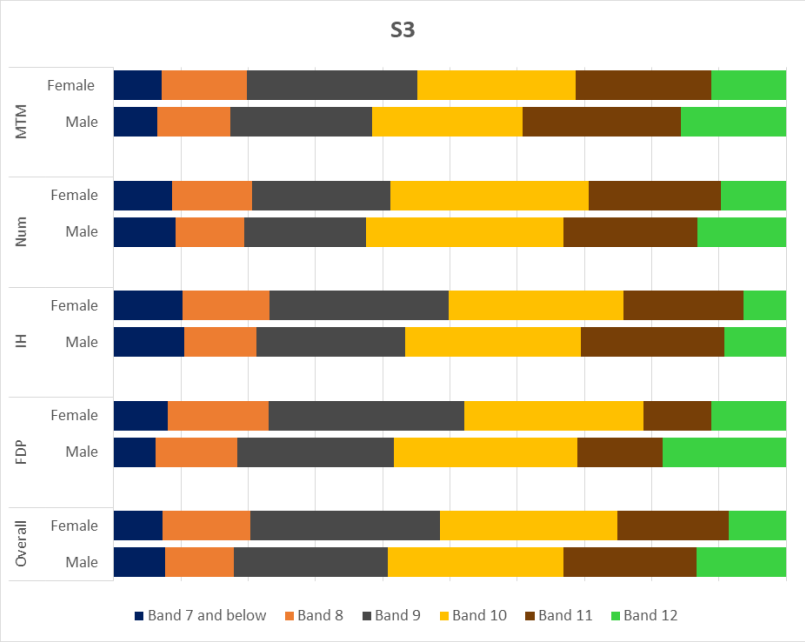
While the difference in outcomes between boys and girls was small overall and by organiser, for Number, there were slightly higher proportions of boys than girls in the upper two bands.

Chart 2c: Numeracy outcomes distributed by sex for P7



At P7, overall, there were larger proportions of boys than girls with outcomes in the top two bands. These differences were noticeably larger than those for learners at P4. This finding holds also when considering the four organisers separately. The largest differences in outcomes between boys and girls were observed for the organisers Number and Fractions, decimal fractions and percentages, where there were higher percentages of boys in the upper two bands.

Chart 2d: Numeracy outcomes distributed by sex for S3



At S3, overall, the differences between the boys and girls were larger than for P4 or P7, with higher proportions of boys than girls achieving outcomes in the upper two bands. There were also somewhat larger proportions of girls than boys with outcomes in the lower two bands. Differences between boys and girls were largest for Fractions, decimal fractions and percentages. For Measurement, time and money, there were also noticeable differences in the proportions of boys and girls in the two bottom and the two top categories.

2.3.3 Scottish Index of Multiple Deprivation

This section reviews the distribution of learners for all stages across categories that reflect the Scottish Index of Multiple Deprivation (SIMD). To simplify the display of outcomes and aid their interpretation, we have divided the original 20 categories (vigintiles) into three combined categories of socio-economic background. These combined categories are: SIMD 1–4, indicating the bottom socio-economic quintile (that is, the most deprived children and young people, those in vigintiles 1 to 4); SIMD 5–16, indicating the three middle quintiles (vigintiles 5 to 16); and SIMD 17–20, indicating the top socio-economic quintile (that is the least deprived children and young people, those in vigintiles 17 to 20).

Charts 3a to 3d show the proportions of numeracy outcomes by capacity band for learners within these SIMD categories for all stages. Outcomes are presented for numeracy overall and grouped by organiser.

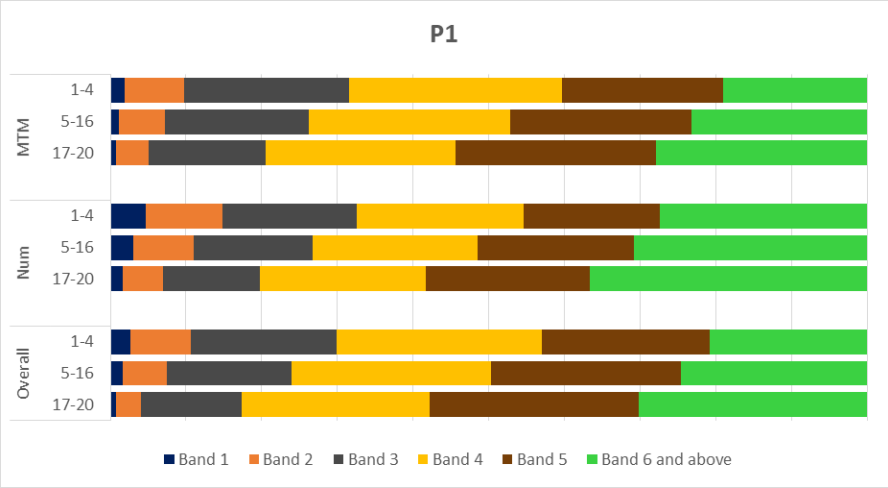
At each stage, the proportion of learners with outcomes in the two upper capacity bands was noticeably larger among learners in the least deprived group (SIMD 17–20), while there were relatively larger proportions of learners with outcomes in the two lowest capacity bands among learners in the most deprived group (SIMD 1–4).

This pattern was present across all stages, both for numeracy overall and for outcomes grouped by organiser.

The charts illustrate that the difference in numeracy outcomes between learners from the most deprived and least deprived groups (bottom quintile and the top quintile) was relatively smaller among children in P1, while it was more pronounced among learners at P4 and P7, and largest among those enrolled in S3. These observations apply both to overall outcomes in numeracy and to each of the organisers in this learning area.

At P1, across all SIMD groupings, the majority of children achieved outcomes in the top two capacity bands both overall and by organiser. Across other stages, both for numeracy overall and by organiser, there were higher proportions of learners with outcomes in the two upper capacity bands among learners in the least deprived group (SIMD 17–20). Similarly, for P4, P7 and S3, there were noticeably lower proportions of learners from the least deprived group (SIMD 17–20) in the lowest two bands, compared to other learners.

Chart 3a: Numeracy outcomes distributed by SIMD* for P1



*The Scottish Index of Multiple Deprivation grades the socio-economic condition of the population over 20 categories (vigintiles). SIMD 1 to 4 correspond to the most deprived 20% of the population. SIMD 5 to 16 correspond to the middle 60% of the population. SIMD 17 to 20 correspond to the least deprived 20% of the population.

Chart 3b: Numeracy outcomes distributed by SIMD for P4

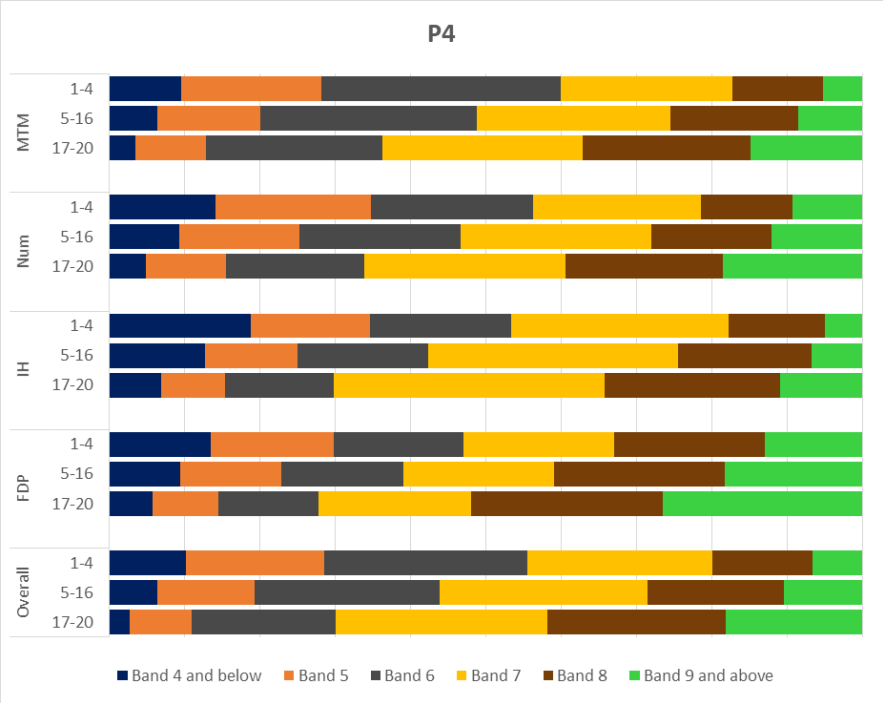


Chart 3c: Numeracy outcomes distributed by SIMD for P7

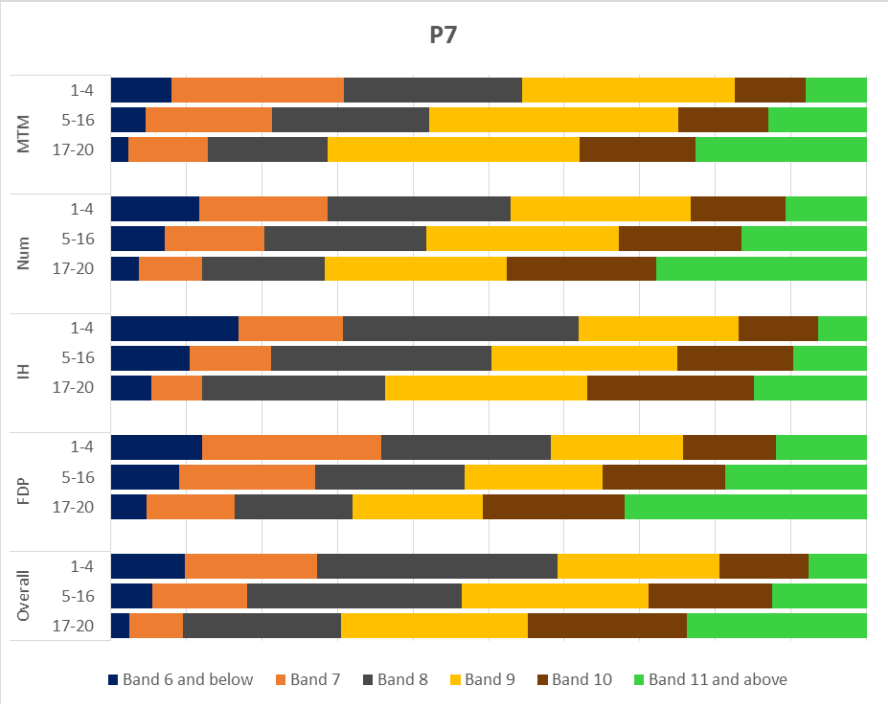
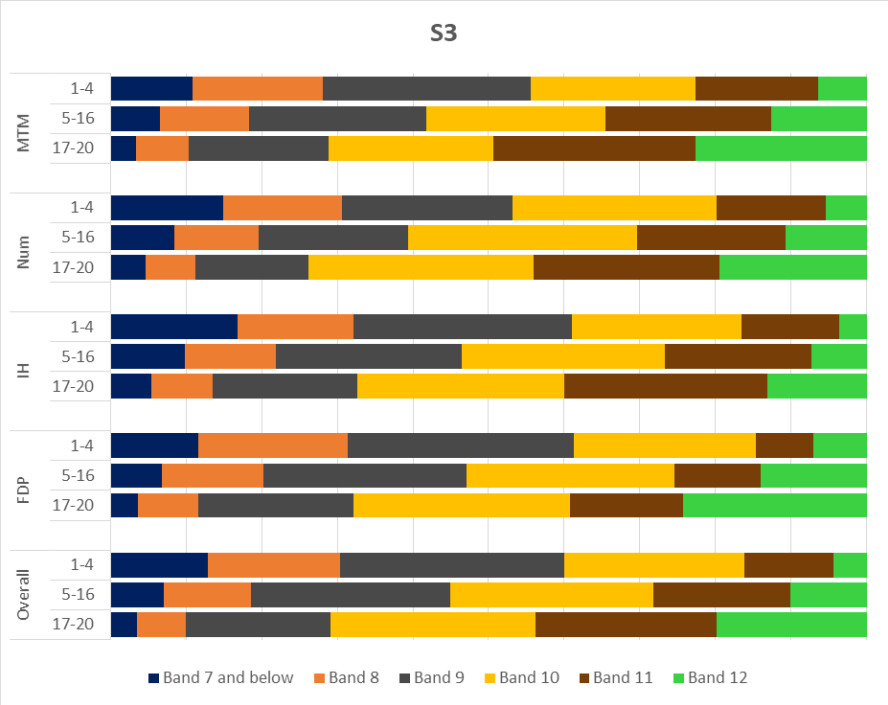


Chart 3d: Numeracy outcomes distributed by SIMD for S3



2.3.4 Ethnic background

This section looks at differences in outcomes between learners from 'White Scottish' and other ethnic backgrounds. Charts 4a to 4d show the percentages of learners in these two groups.

The outcomes show that, generally, there were only relatively small differences across the two comparison groups, both in terms of overall numeracy outcomes and when considering assessment outcomes regarding each of the organisers.

At P1, among children from a 'White Scottish' background, there were slightly higher proportions of children with outcomes in the top two bands than for children from other backgrounds. However, among learners enrolled in the other stages (P4, P7 and S3), both for numeracy overall and by organiser, there were slightly larger proportions with outcomes in the two upper capacity bands among learners from other ethnic backgrounds than among those from a 'White Scottish' background.

Chart 4a: Numeracy outcomes distributed by ethnic background for P1

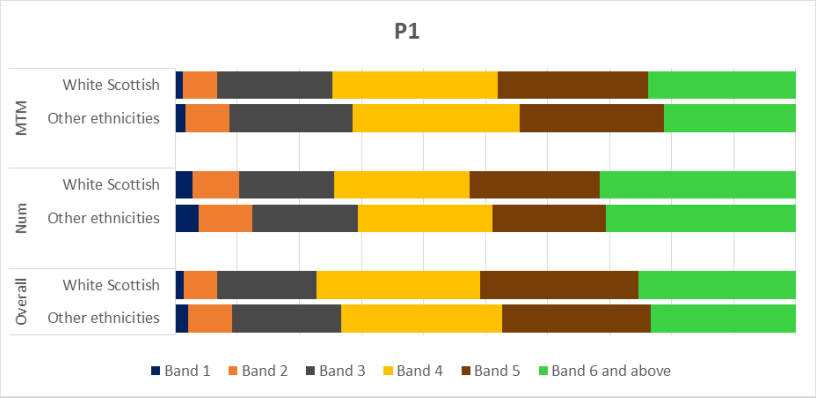


Chart 4b: Numeracy outcomes distributed by ethnic background for P4

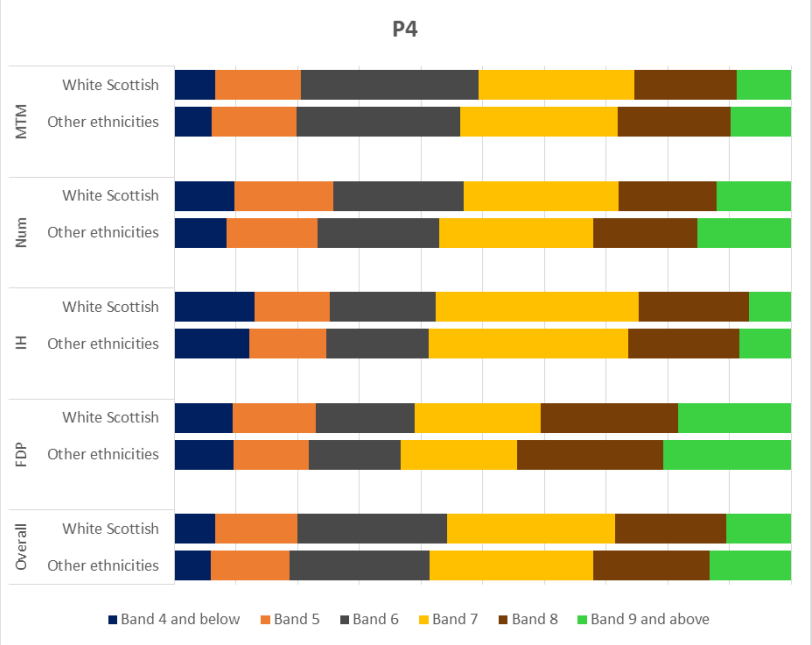


Chart 4c: Numeracy outcomes distributed by ethnic background for P7

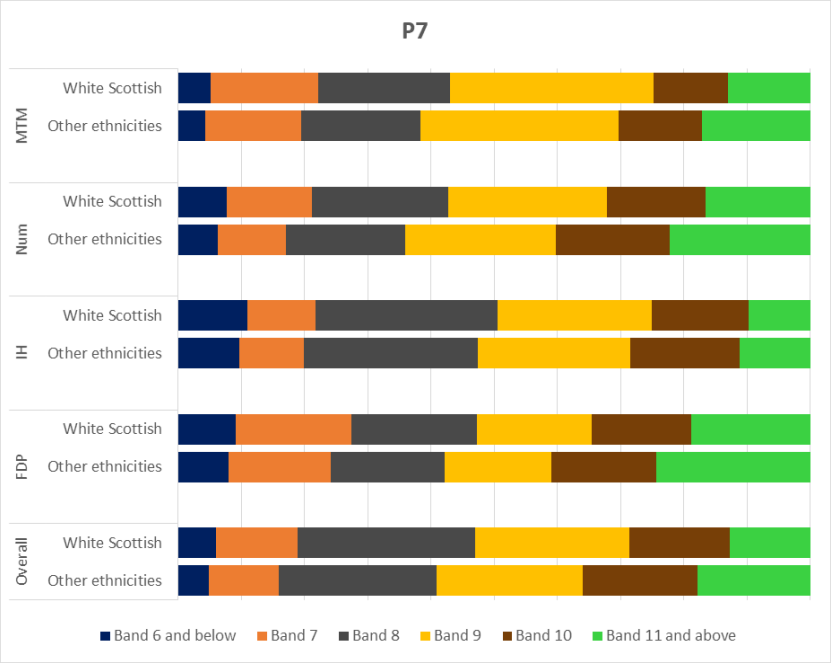
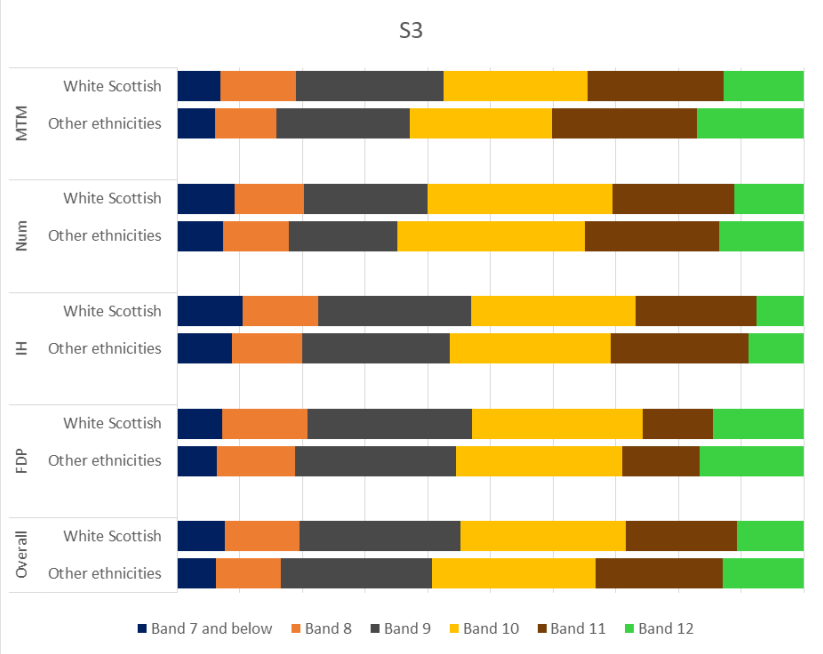


Chart 4d: Numeracy outcomes distributed by ethnic background for S3



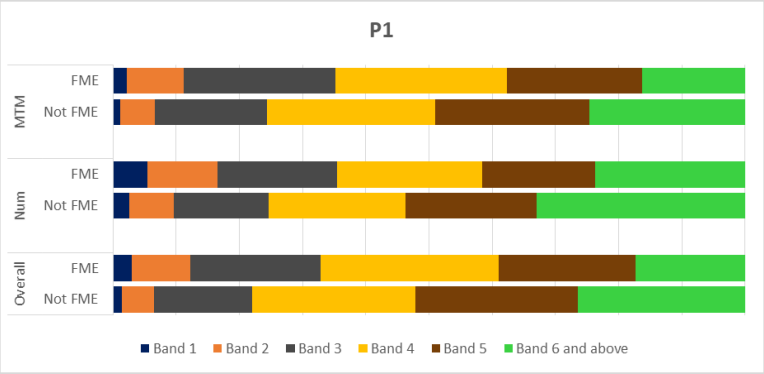
2.3.5 Free School Meal Entitlement

Charts 5a to 5d show the numeracy outcomes of learners according to entitlement to free school meals (FME). These charts distinguish those with entitlement from all other learners.[3]

At each stage, there were notably larger proportions with outcomes in the upper two capacity bands among learners not entitled to free school meals than among those with FME. There were correspondingly higher proportions of outcomes in the lower two capacity bands among learners with FME. This pattern was similar across all stages, both for numeracy overall and by organiser.

At P1, about half of the children without FME had outcomes corresponding to the two upper bands. For the other stages, fewer learners without FME had outcomes in the two upper bands, while about half of the learners achieved outcomes corresponding to the two middle bands. Differences between the FME / not FME groups were roughly similar for each organiser at each stage.

Chart 5a: Numeracy outcomes distributed by FME for P1



[3] The category 'FME' refers to those learners whose record in SEEMiS, the national database, showed that they were registered for Free School Meals. The 'Not FME' category comprises both learners for whom there was a 'not registered' entry and those for whom there was no entry regarding free school meals.

Chart 5b: Numeracy outcomes distributed by FME for P4

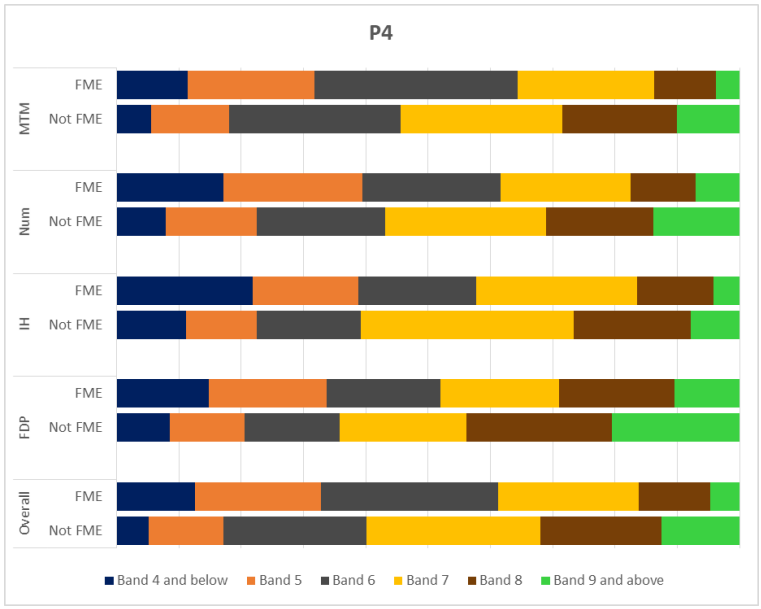


Chart 5c: Numeracy outcomes distributed by FME for P7

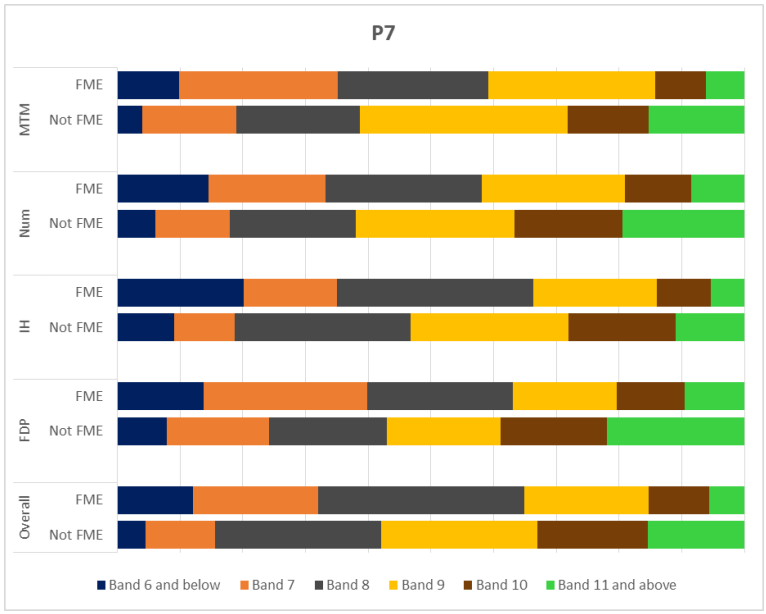
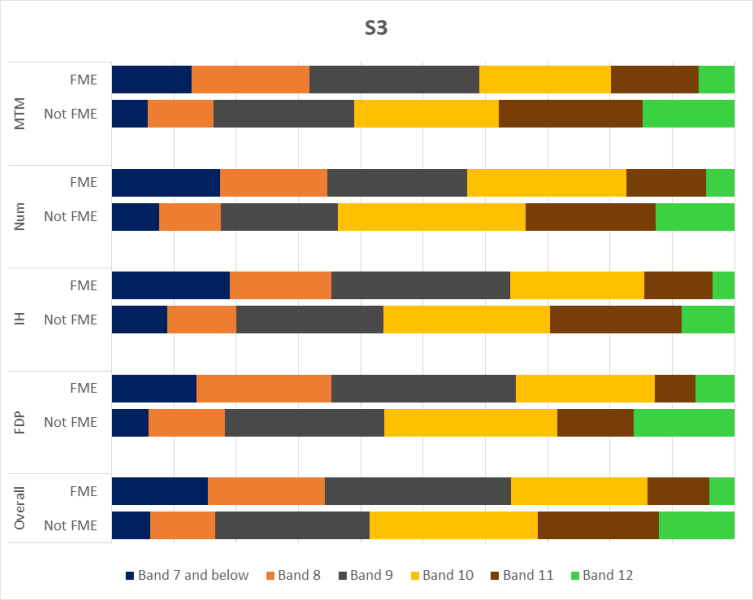


Chart 5d: Numeracy outcomes distributed by FME for S3



2.3.6 Additional Support Needs

Charts 6a to 6d show the distributions of learners according to whether or not learners were registered as learners with Additional Support Needs (ASN).

For all stages, the proportions of learners in the two upper bands were notably larger among learners with no ASN. Similarly, there were relatively larger proportions of learners with ASN in the two lower bands.

While in P1, differences between the proportions of learners with and without ASN in the two lower bands were somewhat less pronounced, at P4, P7 and S3, there tended to be about a third of learners with ASN in the two lower bands, compared to a fifth, or fewer, of learners without ASN. These differences were similar for numeracy overall as well as when considering each organiser separately.

Chart 6a: Numeracy outcomes distributed by ASN for P1

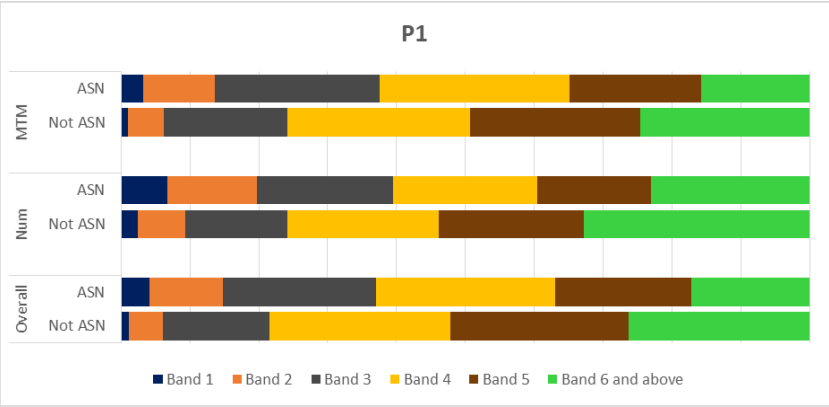


Chart 6b: Numeracy outcomes distributed by ASN for P4

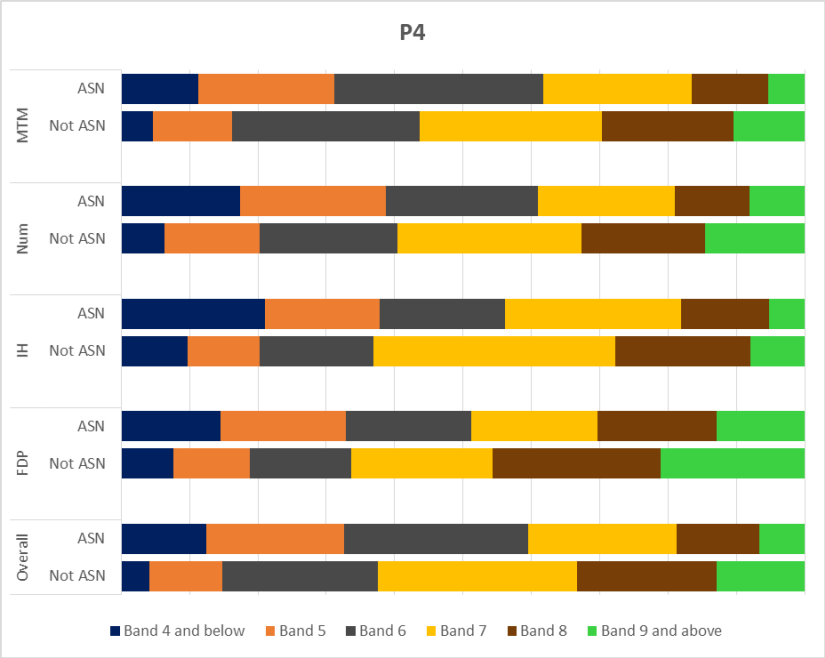


Chart 6c: Numeracy outcomes distributed by ASN for P7

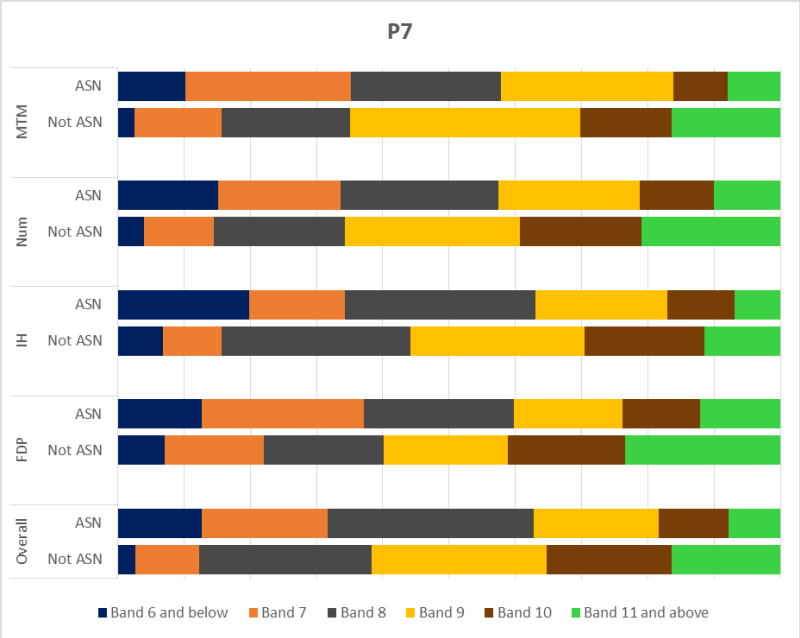
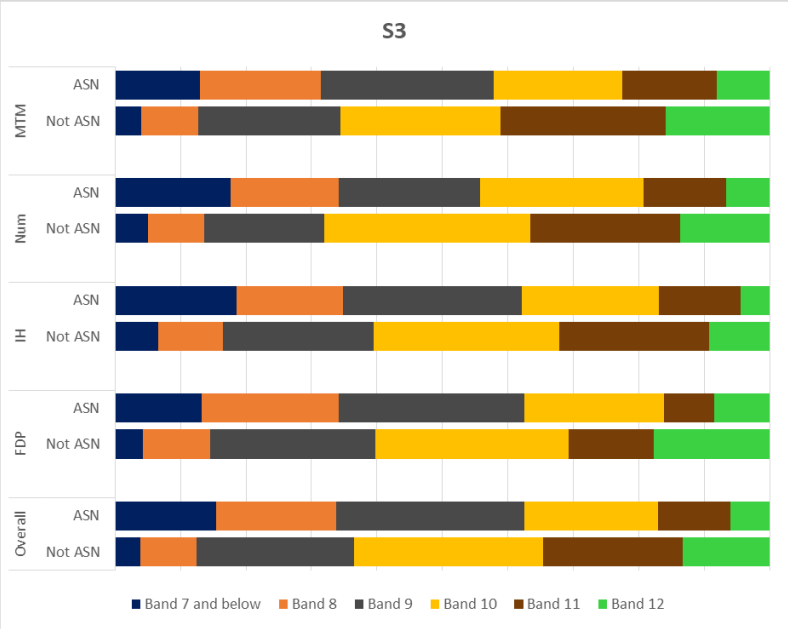


Chart 6d: Numeracy outcomes distributed by ASN for S3



2.3.7 Looked After Children at Home and Looked After Children Away from Home

Charts 7a to 7d compare learners who were classified as Looked After Children at Home (LAH) and Looked After Children Away from Home (LAA) with all other learners. The information was taken from the national database, SEEMiS.

Across all stages, among learners classified as LAH and/or LAA, notably smaller proportions achieved outcomes in the two upper capacity bands, compared to other learners without these classifications. Similarly, among learners classified as LAH or LAA, there were higher proportions with outcomes in the two lower bands than among other learners. This pattern was similar across all stages, both for numeracy overall and by organiser.

Chart 7a: Numeracy outcomes distributed by LAH/LAA for P1

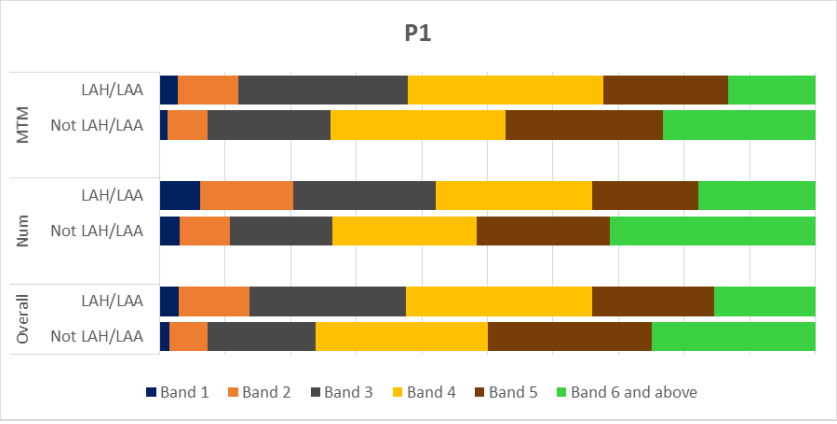


Chart 7b: Numeracy outcomes distributed by LAH/LAA for P4

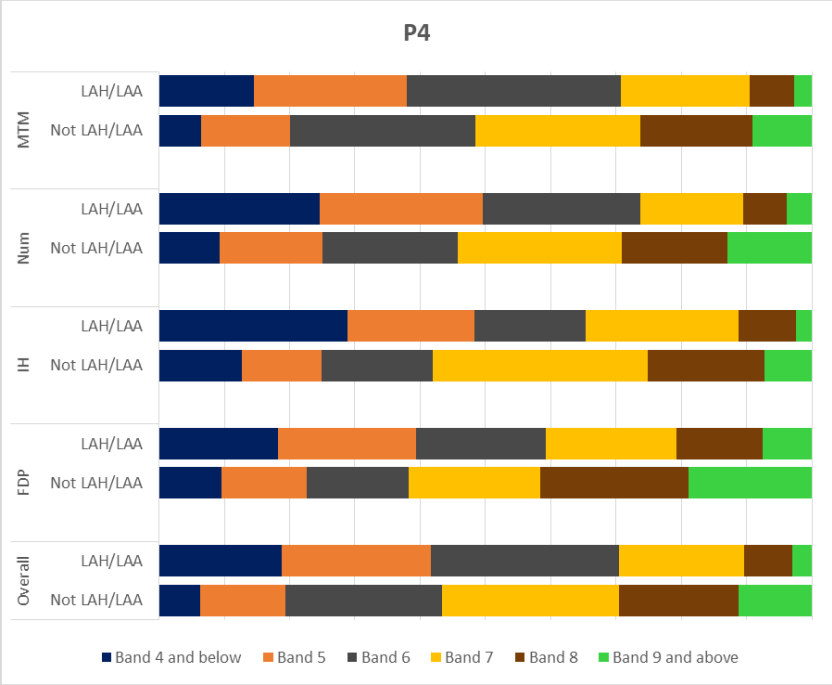


Chart 7c: Numeracy outcomes distributed by LAH/LAA for P7

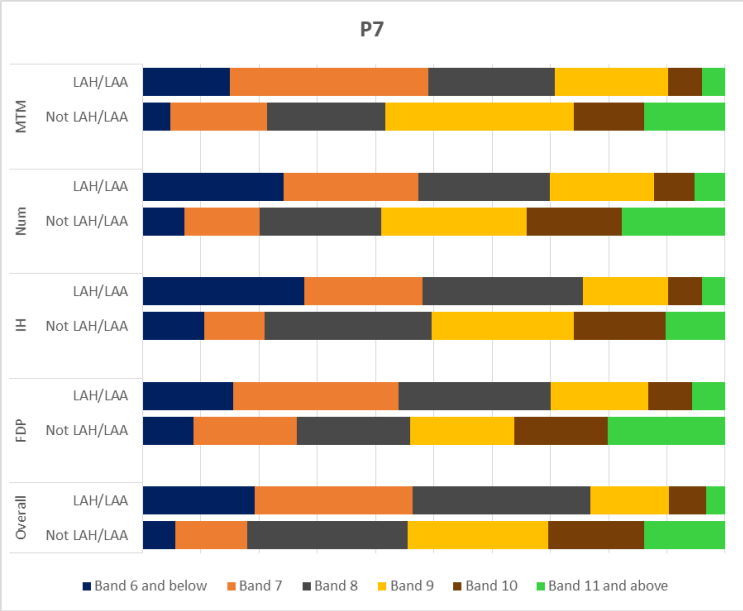
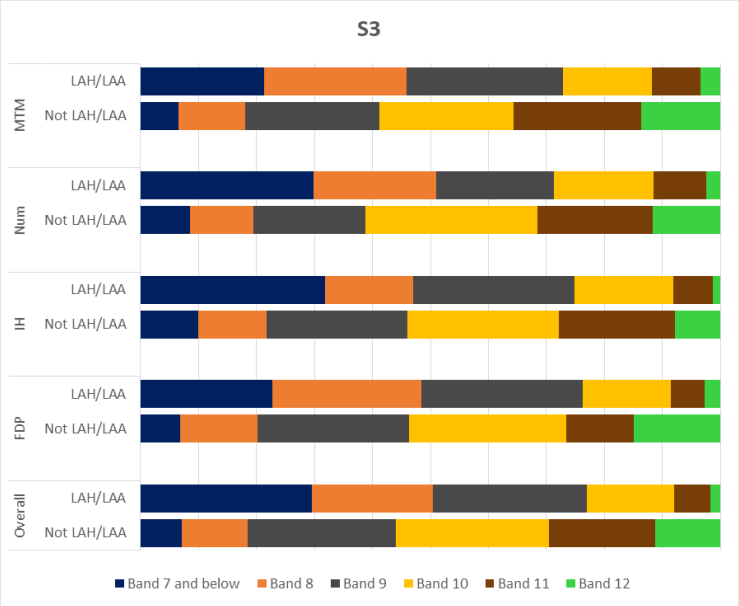


Chart 7d: Numeracy outcomes distributed by LAH/LAA for S3



2.3.8 English as an Additional Language

Charts 8a to 8d compare learners by language background: English as an Additional Language (EAL) compared with all other learners. The category 'EAL' refers to those learners whose record in SEEMiS showed that they had English as an additional language. The 'Not EAL' category comprises both learners who were recorded as not having EAL and those for whom there was no entry in this field.

When comparing learners for whom English is an Additional Language (EAL) and those for whom English is their first language, we observed only relatively small differences in the number of learners achieving outcomes in the highest two capacity bands, both in terms of numeracy overall and by organiser. These patterns were similar across all stages.

At P1, differences between the two groups were slightly larger than for the other stages (P4, P7 and S3). When comparing proportions in bands for each organiser, we observed similar differences between the two groups, with larger proportions of learners with English as their first language having outcomes in the highest two bands.

Chart 8a: Numeracy outcomes distributed by EAL for P1

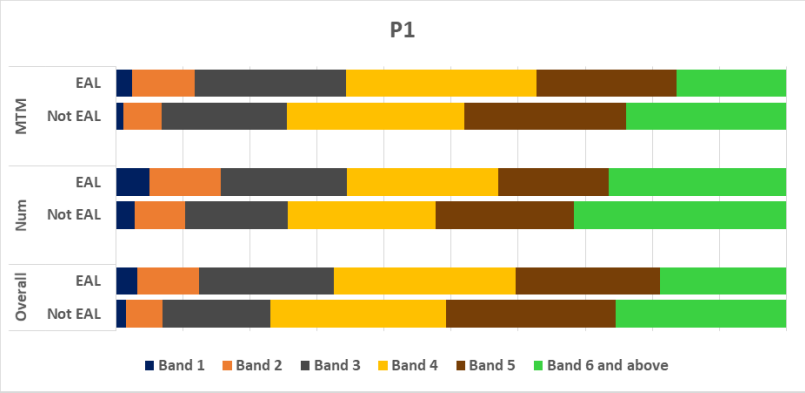


Chart 8b: Numeracy outcomes distributed by EAL for P4

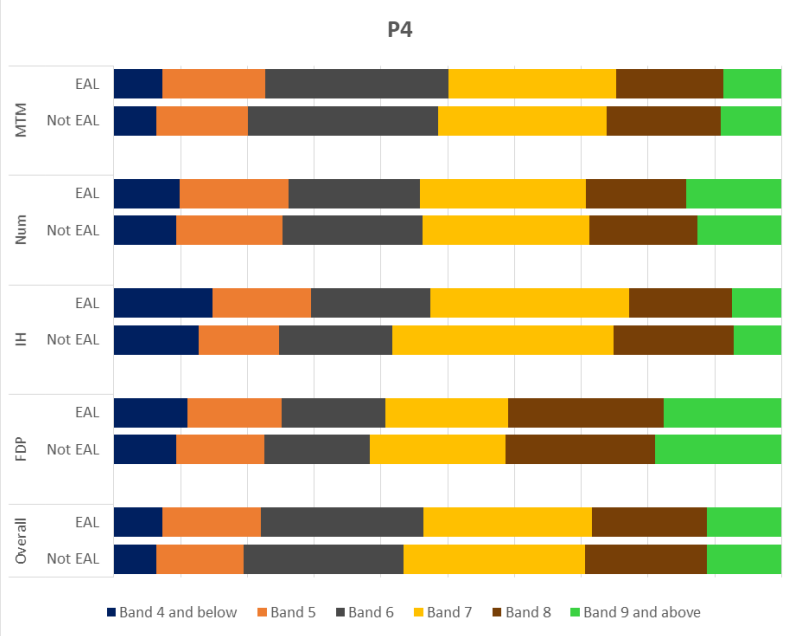


Chart 8c: Numeracy outcomes distributed by EAL for P7

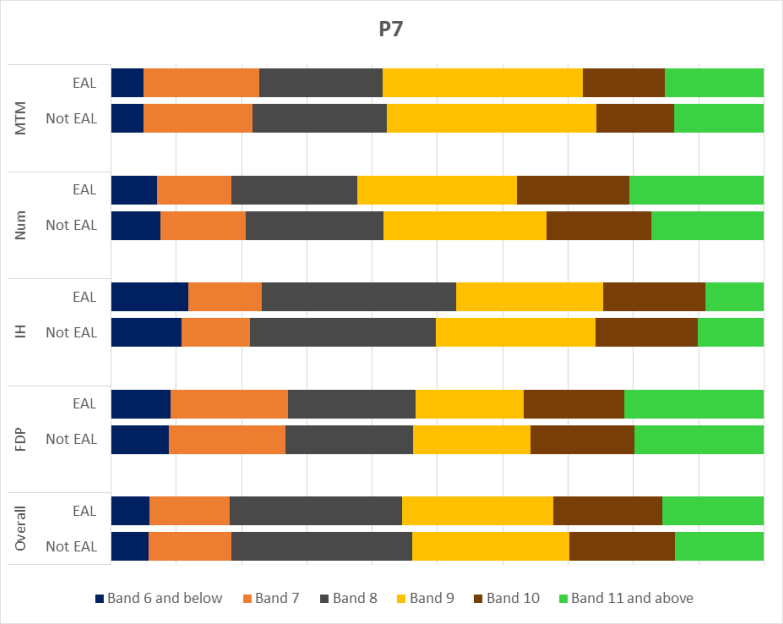
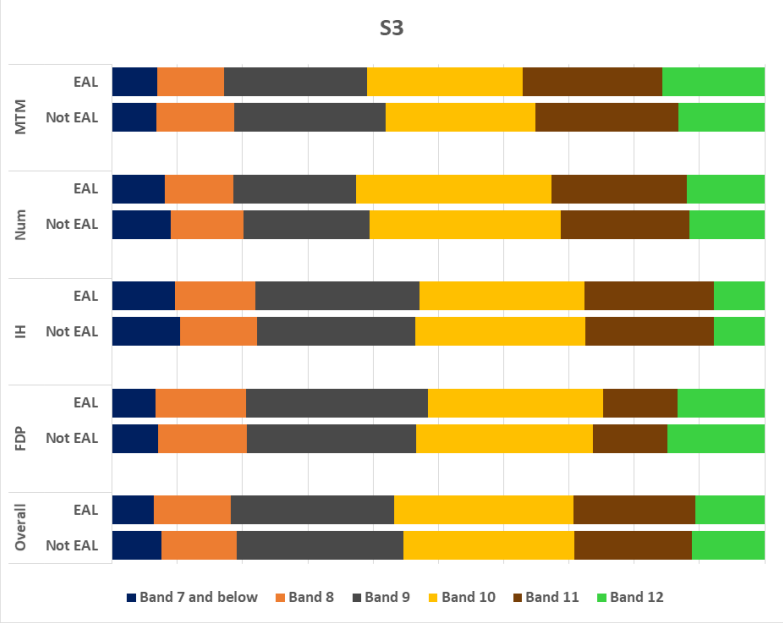


Chart 8d: Numeracy outcomes distributed by EAL for S3



3 Reading/Literacy

3.1 The scope of the reading/literacy assessment

3.1.1 Reading and literacy for P1, P4, P7 and S3

For P4, P7 and S3, the assessments of reading and writing were delivered separately. For P1, children were presented with a single assessment combining elements of reading and writing – this is referred to as the P1 literacy assessment. There were two reasons for combining reading and writing at P1. First, literacy skills tend to be quite integrated at this early stage of development (and may be referred to as 'precursor' or 'component' literacy skills). Secondly, a combined literacy assessment reduced the burden of the assessment, which was an important consideration for the very young children in this stage. The P1 literacy assessment was scaled with the reading assessments for higher stages, using the same set of curriculum organisers, and is therefore discussed in this section in conjunction with the outcomes of the P4, P7 and S3 reading assessments.

The P1 literacy assessment comprised both stand-alone questions and 'units', which are groups of questions focusing on a single stimulus text. At P4, P7 and S3, all the reading questions were grouped into units of four or five questions, to economise on the reading load. Using this unit structure, questions of differing difficulty and covering different organisers could be asked with reference to the same text.

3.1.2 Alignment with Curriculum for Excellence

In the SNSA academic year 2018 to 2019, the assessments of reading and P1 literacy were based on elements of Curriculum for Excellence (CfE), as articulated in the literacy elements of the *Benchmarks: Literacy and English*, published in June 2017.

3.1.3 A note on texts used in SNSA reading assessments

For SNSA reading, a broad definition of texts was used, in line with the statement in *Benchmarks: Literacy and English* (June 2017): 'Challenge in literacy … involves engaging with a wide range of increasingly complex texts which are suitable to the reading age of each learner.' In SNSA, this range includes narrative fiction and non-fiction, description, explanation, argument and instructions. A further dimension to the definition of texts in SNSA reading relates to format, as described in *Curriculum for Excellence: Literacy and English, Principles and Practice*: 'Texts can be in continuous form, including traditional formal prose, or non-continuous, for example charts and graphs.'

3.2 Coverage of the Curriculum for Excellence: Benchmarks and organisers

SNSA are just one part of the range of assessments that teachers use in making their evaluations of children's and young people's learning. As a standardised assessment with a defined number of questions and using questions capable of being scored automatically, only some parts of the specified reading Benchmarks could be addressed. In consultation with Scottish literacy experts, it was agreed that the reading and P1 literacy assessments should be based on the organisers Tools for reading (TFR), Finding and using information (FUI), and Understanding, analysing and evaluating (UAE). Each of the questions selected for inclusion in

SNSA reading and literacy assessments for the academic year 2018 to 2019 was aligned with a Benchmark statement from one of these organisers.

Although all three organisers are represented in the P1, P4, P7 and S3 reading assessments, there were different proportions across the stages. In the reports provided to schools, teachers received information about organiser-level outcomes if the learner was presented with at least five questions from the organiser. Similarly, in this report, outcomes for organisers that were addressed by at least five questions in each learner's assessment are analysed. The organisers included in the reports are shown by stage, in Table 1.

Table 1: Reporting organisers for reading by stage, academic year 2018 to 2019

Stage	Organisers
Primary 1	Tools for reading Understanding, analysing and evaluating
Primary 4	Finding and using information Understanding, analysing and evaluating
Primary 7	Finding and using information Understanding, analysing and evaluating
Secondary 3	Finding and using information Understanding, analysing and evaluating

The following sections provide more information on each of the reading organisers in SNSA 2018 to 2019, along with some example items. These items are not used in SNSA 2019 to 2020, and they will not be used in future Scottish National Standardised Assessments.

3.2.1 Tools for reading

In the P1 assessment, this organiser comprised questions related to phonological awareness, word decoding and word recognition; in the assessments for the higher stages, assessment content mainly referred to learners' use of strategies to work out the meaning of words. The P4, P7 and S3 assessments contained relatively small numbers of questions from this organiser in the academic year 2018 to 2019.

Figure 10 shows a typical question from the P1 literacy assessment, which reflects the organiser Tools for reading. It is designed to assess children's knowledge of sounds (phonological awareness). Note that the 'mouth' icon indicates to the learner that there is a voiced component to the question, enabling the child to listen to the instruction and response options.[4] In this case, clicking on the icon prompts a reading of the question text to the child, including the answer options.

[4] P1 children were shown how to use the 'mouth' icon in practice assessments and it is used throughout the literacy and numeracy assessments for this stage.

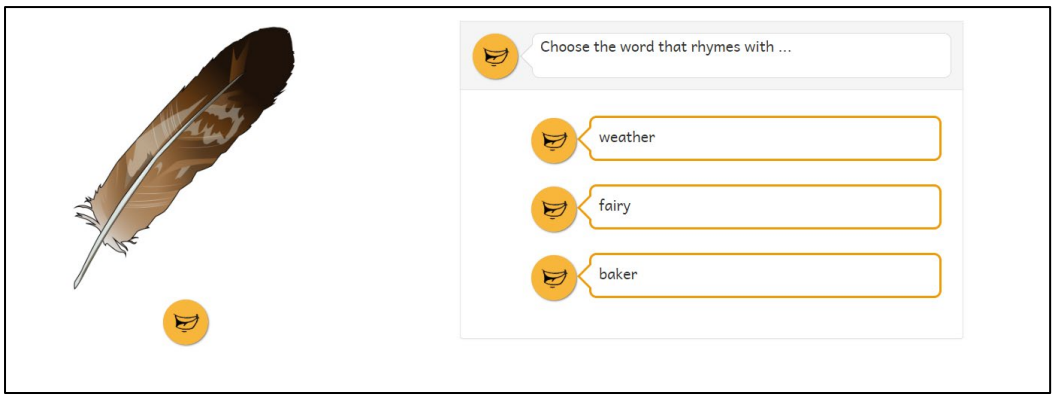


Figure 10: Example of a P1 Tools for reading question, 'Rhyming word – feather'

This question asks the child to identify aurally presented rhyming words, a skill which, in English, is a key precursor to mastery of reading. While children might have used decoding skills to read the words 'weather', 'fairy' and 'baker', they are not expected to do so; this is a question designed to assess whether children can hear and recognise rhyming sounds. Hence, the word 'feather' is only presented aurally, with pictorial support. This means that the focus of the question is unambiguously on phonological awareness rather than decoding. This question was classified as being in the middle of the P1 literacy question difficulty range. It was presented to children who were progressing relatively successfully through the assessment, and of these learners, the majority was able to answer it correctly.

Figure 11 shows another example of a P1 Tools for reading question.

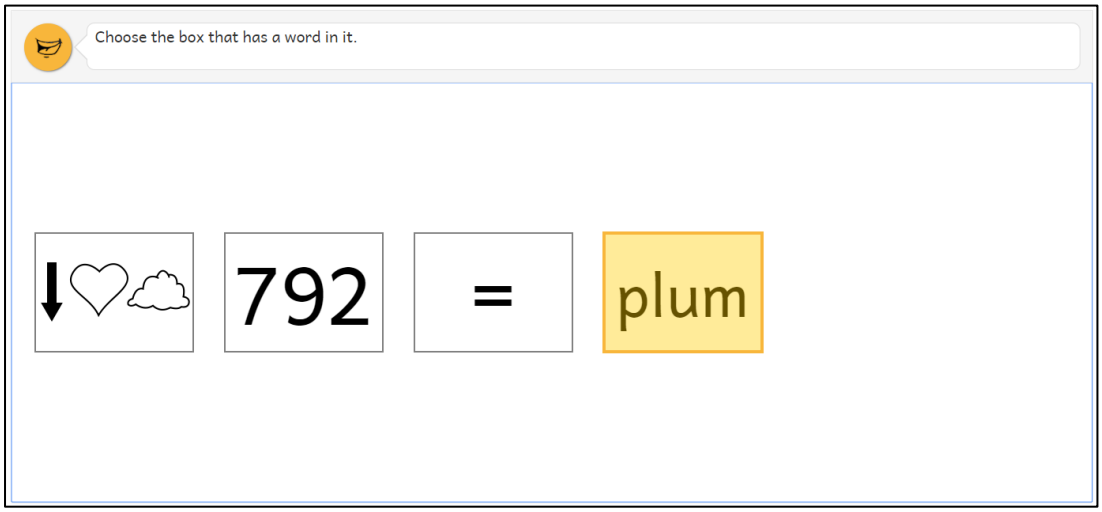


Figure 11: Example of a P1 Tools for reading question, 'Select the word'

This question draws on a child's word recognition skills, which is part of very early literacy development. It required learners to identify a word from a set of options including numbers and symbols. An audio prompt provided support to the onscreen instruction. In this case, learners were not required to decode the word, or demonstrate understanding of its meaning. This question was answered correctly by almost all the learners presented with it in the assessment.

3.2.2 Finding and using information

This organiser focuses on the critical literacy skills of locating information in a text and employing the information to meet a purpose. These skills are often applied in the context of non-fiction texts but can also be applied to fiction. In SNSA, questions for P1 and P4 learners that corresponded to this organiser generally focused on finding information that was literally stated, or required a low level of inference (for example, recognising synonyms linking the question with the text). More advanced questions addressing similar skills – for P7 and S3 – were likely to be applied to longer and more complex texts. At P7, the organiser Finding and using information also included questions requiring learners to sort information in a text into relevant categories. The S3 reading assessment presented Finding and using information questions that asked young people to find key information in one or more texts, or to make connections between the information they located, sometimes across more than one text.

Figure 12 shows a typical question from the P4 reading assessment, from the organiser Finding and using information. The stimulus for this question is a narrative fiction text of typical length within the context of the P4 reading assessment, and mainly uses relatively simple vocabulary and language structures. The question presented here required children to find information in the fiction text.

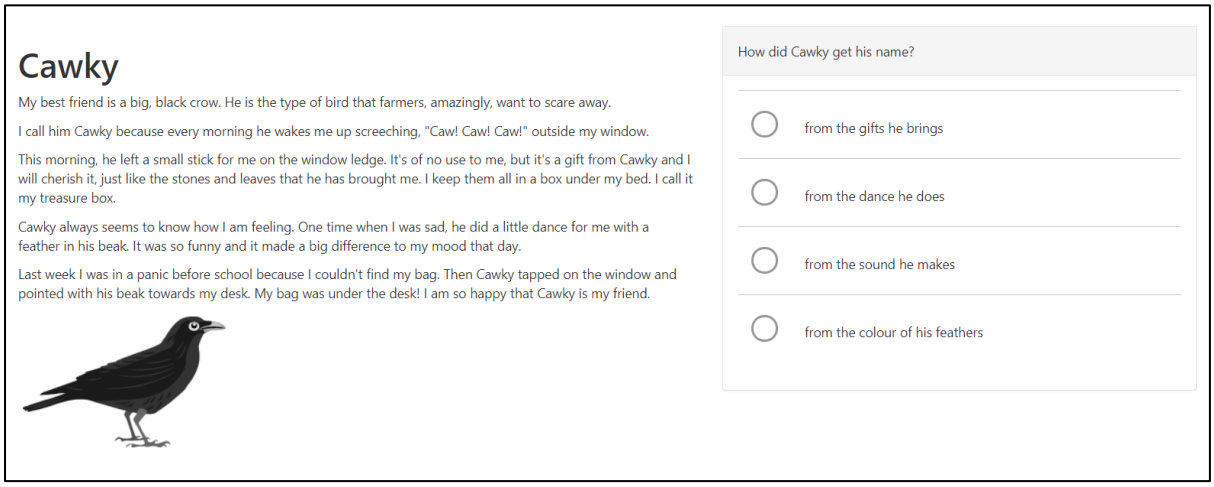


Figure 12: Example of a P4 reading text with a Finding and using information question, ‘Cawky Question 1’

This question asks the child to locate a paraphrased detail in the text. The information is located near the beginning of the text, and uses familiar synonymous language as support to help the child link the information in the text to the correct answer. The word ‘screeching’ relates to the answer option ‘sound’. The onomatopoeic word ‘Caw’ is shown to be a sound both through the introductory ‘screeching’ and the use of quotation marks. Finally, ‘Caw’ has a clear link to the name Cawky in the question stem. This question was classified as being at the low end of the difficulty range for P4 learners and was answered correctly by most learners who were presented with it.

A more difficult question from the Cawky unit is presented below, in the section on Understanding, analysing and evaluating.

Figure 13 shows a Finding and using information question from a P7 reading assessment. The stimulus for this question is a descriptive, non-fiction text. While the text is still relatively short, in comparison with the P4 example text in Figure 12, it uses more complex vocabulary, including some technical terminology, and the sentences are longer and use more complex structures, providing children in P7 with greater challenge.

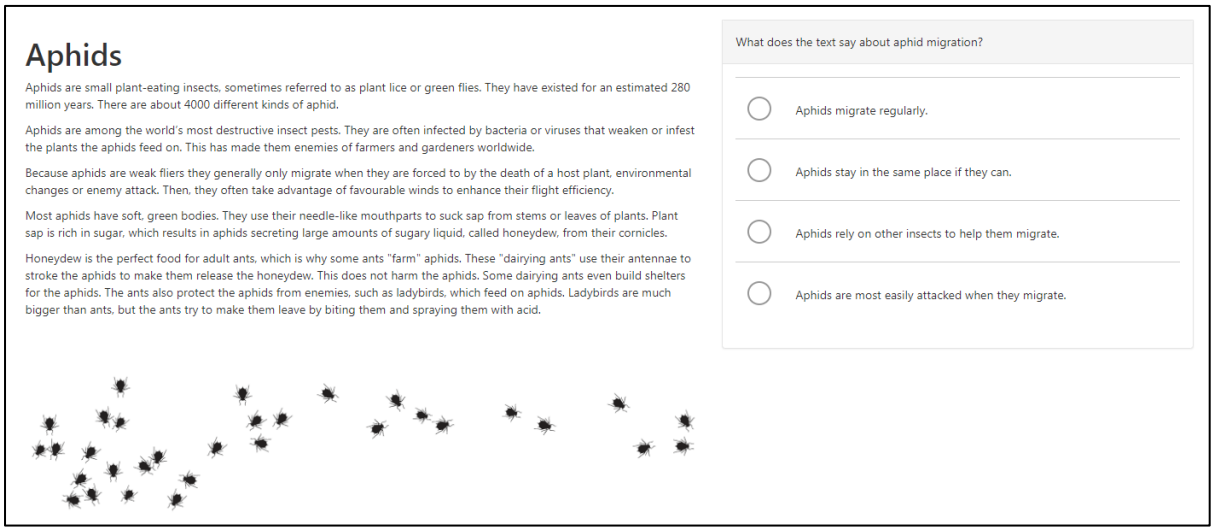


Figure 13: Example of a P7 reading stimulus text with a Finding and using information question, ‘Aphids Question 4’

The question presented here required children to select relevant information from a non-fiction text. Despite the very clear link between the key term ‘migration’ in the question prompt and ‘migrate’ in the text, which draws the learner to the location of the relevant information, in other ways this question is considerably more difficult than the P4 example provided in Figure 12. It is not only the text that is more complex, but the question itself, which relies on more sophisticated skills and understanding than the simple matching of related words in ‘Cawky Question 1’. Although this text quite clearly states that aphids only migrate if they find themselves in unfavourable conditions, learners must infer from this that they otherwise stay where they are. Alongside the need to interpret, a second challenge in this item comes from the need to negotiate strongly competing details both within the same sentence and later in the text. The fourth option in particular proved a strong distractor for learners, possibly because the information about enemy attacks was very close to the correct answer in the text, and because of the repeated reference to ‘enemies’ at the end of the text.

This unit was only seen by children if they did relatively well in the first phase of the assessment and the question was classified as being at the high end of the P7 question difficulty range. Of the learners presented with this question, a large minority answered it correctly.

A less difficult question from this unit is presented in the discussion of the organiser Understanding, analysing and evaluating, which follows.

3.2.3 Understanding, analysing and evaluating

The essence of this organiser is comprehension, beginning with word and sentence level texts (for learners at P1) and with progressively longer and more complex passages of text providing greater challenge across all the reading assessments. While questions for the P4 assessment tended to focus on main or prominent ideas, learners at P7 and S3 were asked to answer a range of literal, inferential and evaluative questions that, for example, might require learners to distinguish between fact and opinion, recognise persuasive language, use evidence from a text to support answers, or evaluate the reliability and credibility of texts.

Figure 14 is an example of a P1 question from the organiser Understanding, analysing and evaluating. It assesses reading comprehension at sentence level. In this kind of question, the child chooses an answer by clicking on a word in the sentence. This skill was modelled in the practice assessment.

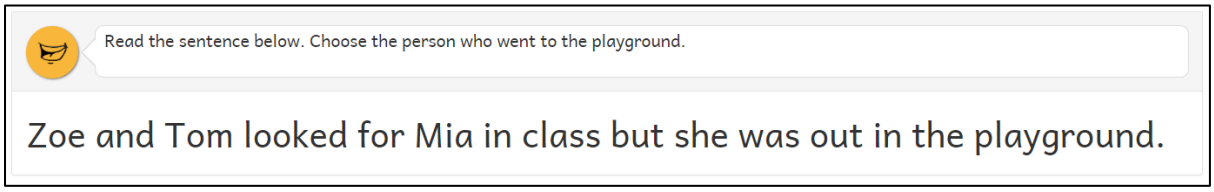


Figure 14: Example of a P1 Understanding, analysing and evaluating question, 'Sentence comprehension'

This item was rated as being at the high end of the P1 question difficulty range. While the instruction ('Read the sentence below … ') can be read to the learner using the audio button, the sentence itself has no audio support. In contrast to the Tools for reading question 'Rhyming word – feather' presented in Figure 10, the child is required to read independently. As well as being able to decode the words, the child needs to track the pronoun reference 'she' and interpret the meaning of 'but'. This question therefore relies on understanding information, rather than just finding and using it. The majority of P1 children presented with this question was able to complete it successfully.

It can be seen that the example question shown in Figure 14 requires the child both to decode the words (that is, to read independently) and to understand the meaning of the sentence. Another approach to assessing the development of reading comprehension at the earliest stages is to present written texts orally. This is because young children may have higher skills in comprehension than their decoding skills allow them to demonstrate. Accordingly, at P1, a combination of written texts with audio support and without audio support was used to assess the skills, knowledge and understanding associated with the organiser Understanding, analysing and evaluating.

Figure 15 shows a P4 Understanding, analysing and evaluating question. This was the last of the five questions related to the text Cawky, which is included in Figure 12 above.

Figure 15: Example of a P4 Understanding, analysing and evaluating question, 'Cawky Question 5'

This question asks children to identify the main idea in a narrative, one of the key skills included in Understanding, analysing and evaluating in the P4 reading assessment. This question, rated as being at the high end of the P4 question difficulty range, was the most challenging question asked about the Cawky text. The most commonly chosen incorrect answer was the second option, and this is likely to be because of the explicit references to friendship both at the beginning and end of the passage. A significant minority of the learners who saw this question answered it correctly but the majority of those who demonstrated higher overall capacities on the P4 reading assessment responded successfully.

Figure 16 shows a P7 reading question that addresses the organiser Understanding, analysing and evaluating. It was the third question presented to children about the information text Aphids, presented in Figure 13 above.

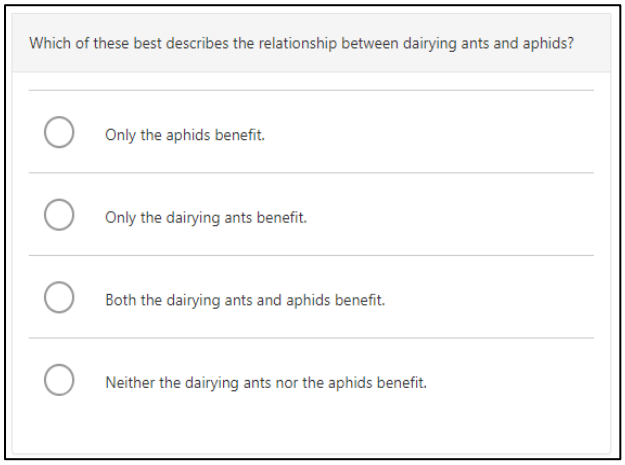


Figure 16: Example of a P7 Understanding, analysing and evaluating question, 'Aphids Question 3'

This question asks children to identify the nature of an unusual relationship in a scientific text. To answer this question successfully, children must understand and synthesise information contained across all sentences in the final paragraph of the text, before evaluating the relationship that is suggested. This question was in the middle of the question difficulty range for P7. It was presented to learners who had

done relatively well in the first phase of the assessment and was answered correctly by the majority of these learners.

Reflecting the importance of the skills in this organiser within CfE, the majority of questions in the S3 reading assessment for 2018 to 2019 focused on Understanding, analysing and evaluating. Like the reading assessments for P4 and P7, the texts used for the S3 assessment covered a range of text types, contexts and topics, from narrative through to information or persuasive texts, and fiction through to scientific texts or blogs. As would be expected, the texts for S3 were generally longer and more complex than for the lower stages. The text in Figure 17 is an example of a typical text for S3.

Shill Reviewing

Customers who shop online cannot inspect the products to check their quality. Other customers' reviews can provide some guidance. But are these reviews reliable? It is possible that some of these reviews were written by the company that makes the product. This process is called "shill reviewing" and it is commonly found on websites.

Customer Reviews

88 Reviews

5 star: (64)
4 star: (14)
3 star: (5)
2 star: (1)
1 star: (4)

Average Customer Review
☆☆☆☆☆ (88 customer reviews)

☆☆☆☆☆ **High Comfort**, September 18, **2016**

By **Bryon** - See all my reviews

I just bought my second pair of this wonderful design.
These shoes feel great, forever.

The following advice from Internet shopping guru Kristen O'Reilly will help you to identify a shill review.

- Look out for reviews that use over-the-top phrases like "by far the best..." and "the greatest ever". If they appear too good to be true, they probably are.
- When a new product enters the market, the manufacturer will sometimes generate interest by planting a few favourable comments. When there are lots of reviews, the chance of these being shill reviews is reduced.
- The more reviews a particular customer has written, the more likely the reviewer is to be genuine. Customers who have posted just a couple of (overwhelmingly positive) reviews should be treated with caution, particularly if that reviewer has only been reviewing products by the same manufacturer.
- If a product has been receiving only negative reviews and then suddenly receives a run of really amazing comments, these are likely to be shill reviews.
- It is not uncommon for a shill reviewer to write reviews by logging in under different usernames. If two reviews are written in a similar style and are equally glowing, they may have been written by the same person, particularly if they were posted around the same time.

Figure 17: Example of an S3 Understanding, analysing and evaluating text, 'Shill Reviewing'

Shill Reviewing is an example of a non-continuous information text that includes prose, graphical information and a list, and which also includes persuasive language. Although the vocabulary is non-technical and the sentence structures are relatively simple, the different text formats and the overall argument must be integrated by the reader, providing a higher degree of challenge than the texts presented previously in this report.

Figure 18 shows a Shill Reviewing question reflecting the organiser Understanding, analysing and evaluating.

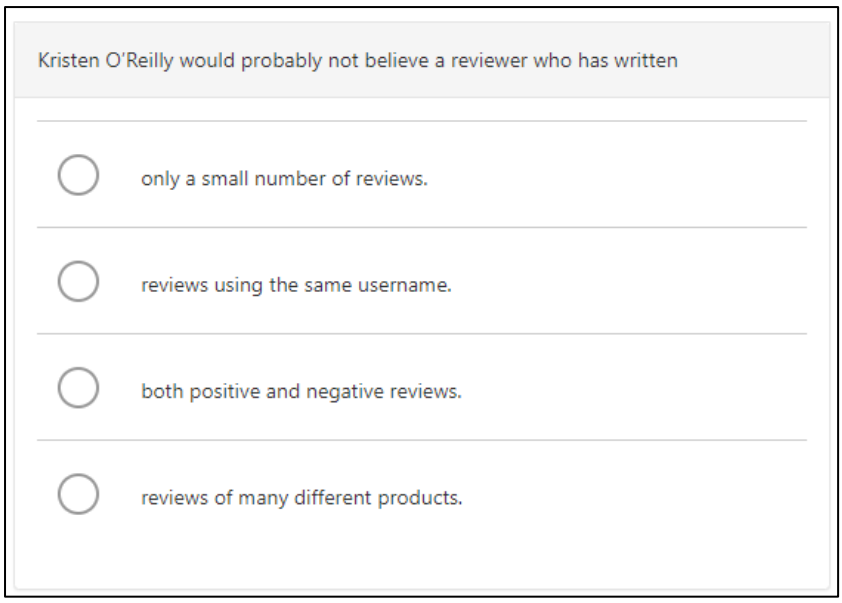


Figure 18: Example of an S3 Understanding, analysing and evaluating question, 'Shill Reviewing Question 4'

Questions in this organiser at S3 asked young people to demonstrate skills such as interpreting main ideas or details of a text, comparing or contrasting elements within it, or reflecting on its audience or purpose. In Shill Reviewing Question 4, an inference must be drawn by comparing and contrasting the range of views expressed in the text. This question is from the high end of the S3 question difficulty range, and a minority of those learners to whom it was presented answered it correctly.

In contrast, almost all learners presented with the question shown in Figure 19 below answered it correctly, including a majority of learners who demonstrated lower capacities in the S3 reading assessment overall. This item was also from the Understanding, analysing and evaluating organiser.

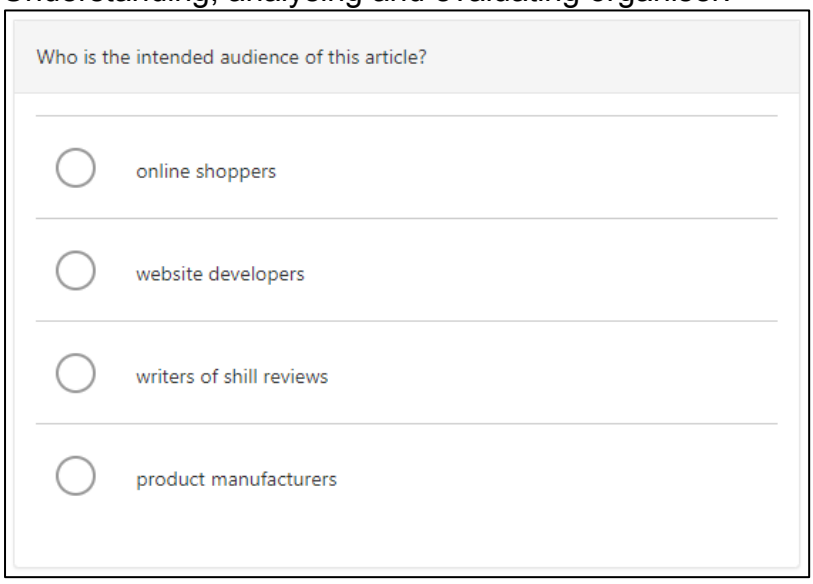


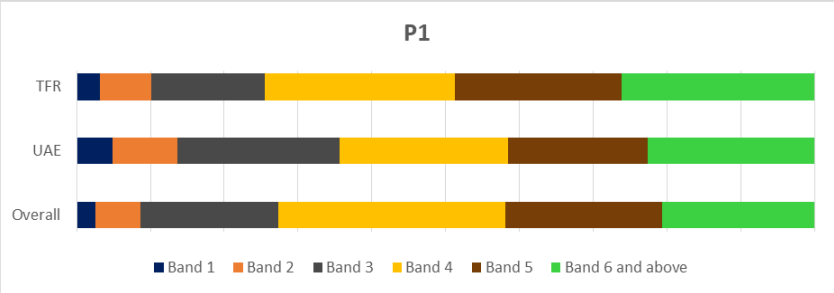
Figure 19: Example of an S3 Understanding, analysing and evaluating question, 'Shill Reviewing Question 2'

3.3 National outcomes for reading

3.3.1 Overall outcome

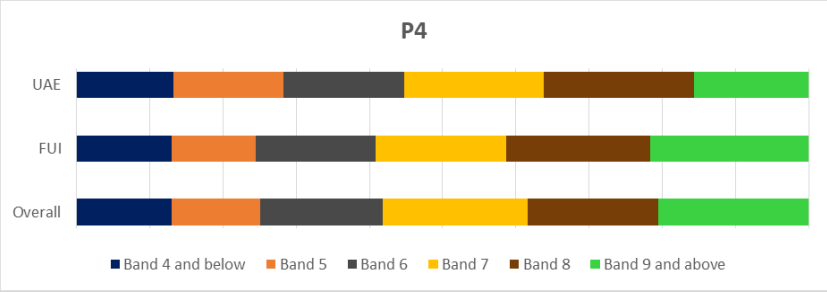
Charts 9a to 9d show the overall outcomes for reading across all stages (P1, P4, P7 and S3) and outcomes in relation to the three reading/literacy organisers: Tools for reading (TFR), Understanding, analysing and evaluating (UAE) and Finding and using information (FUI). The bars indicate the proportions of learners achieving outcomes corresponding to each of the six bands reported at each stage, in line with SNSA reports for the academic year 2018 to 2019.

Chart 9a: Reading outcomes by SNSA year P1



At P1, overall, about half of the children showed reading outcomes corresponding to the two middle bands, with the next largest proportion of learners having outcomes in the two upper bands. Very few children had outcomes corresponding to the two lower bands. When considering Tools for reading, almost half of children in P1 achieved outcomes in the two upper bands. When considering the organiser Understanding, analysing and evaluating, there were somewhat lower percentages with outcomes in the two highest categories, while relatively more children had outcomes corresponding to the two middle bands. For this organiser, there were also slightly more learners with outcomes in the two lower bands.

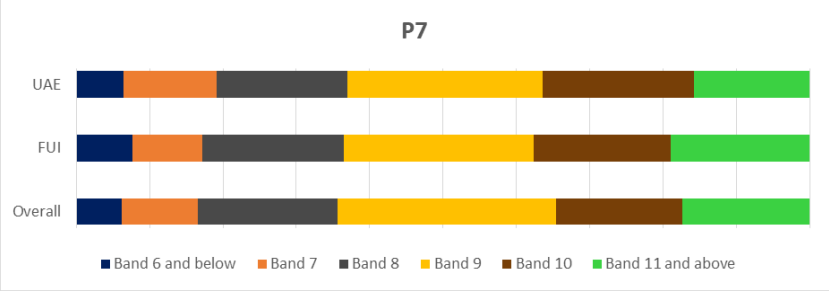
Chart 9b: Reading outcomes by SNSA year P4



At P4, similar proportions of learners achieved outcomes in the two upper bands and the two middle bands, while lower proportions, of only about a quarter of learners, had outcomes corresponding to the two lower bands. However, for Finding and using information, there were somewhat higher percentages of learners in the two upper

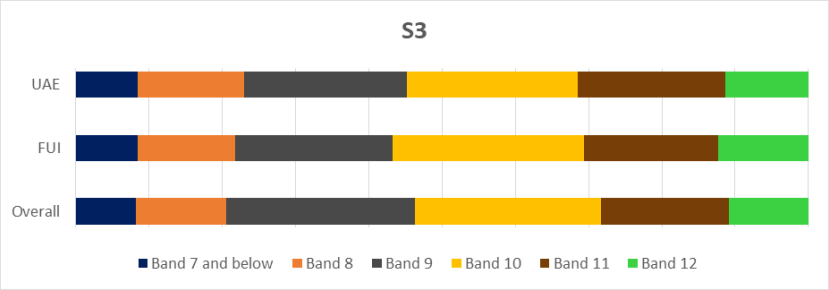
bands than in the two middle bands. Understanding, analysing and evaluating showed similar proportions of learners in each of the four upper bands.

Chart 9c: Reading outcomes by SNSA year P7



The largest proportion of learners at P7 achieved outcomes in the two middle bands on their reading assessment, while only relatively small proportions, of less than a fifth, achieved outcomes in the two lower bands. Only slightly more than a third of learners had outcomes in the two upper bands. There was a slightly larger proportion of learners with outcomes in the top two bands for Finding and using information.

Chart 9d: Reading outcomes by SNSA year S3



At S3, overall, most learners achieved outcomes corresponding to the two middle bands. There was a slightly lower proportion in the top two bands for Finding and using information, as compared with Understanding, analysing and evaluating.

3.3.2 Sex

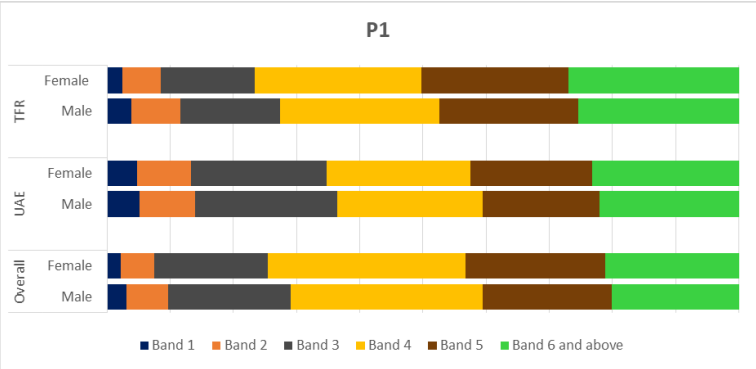
Charts 10a to 10d show the proportions of boys and girls in each of the literacy and reading bands for all stages, both overall for reading and by organiser.

For P1, P7 and S3, outcomes were similar, as the largest proportions of boys and girls achieved outcomes in the middle two bands. This was the case for the overall outcomes, and generally was also the case when considering only assessment material related to each of the organisers. Among P4 learners, the proportions for boys and girls in the two middle groups were relatively smaller, when compared to the other stages.

However, there were notable differences between boys and girls across stages. Among girls, there were consistently larger proportions achieving outcomes in the

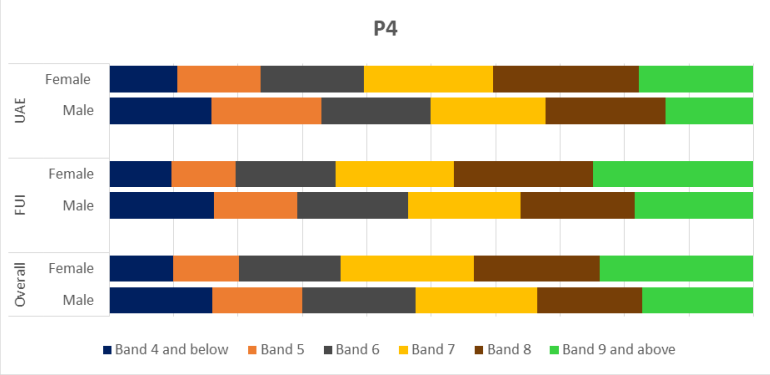
two upper bands, as compared with boys. There were similar differences between the two groups when reviewing outcomes separately by organiser content.

Chart 10a: Reading outcomes distributed by sex for P1



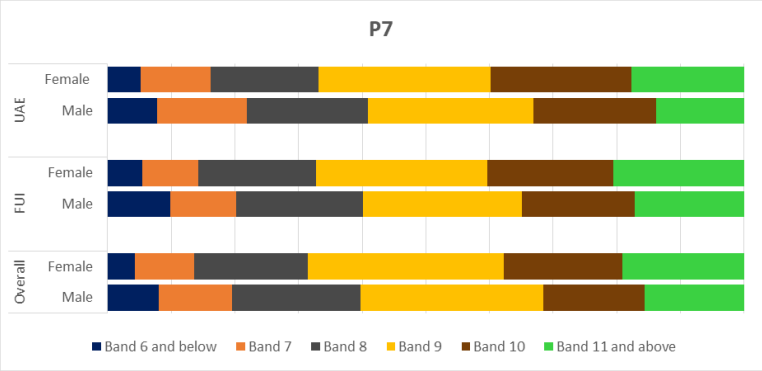
Compared to the outcomes at higher stages, there were relatively smaller differences between boys and girls among learners at P1 overall, as well as when only considering content related to each of the two organisers separately.

Chart 10b: Reading outcomes distributed by sex for P4



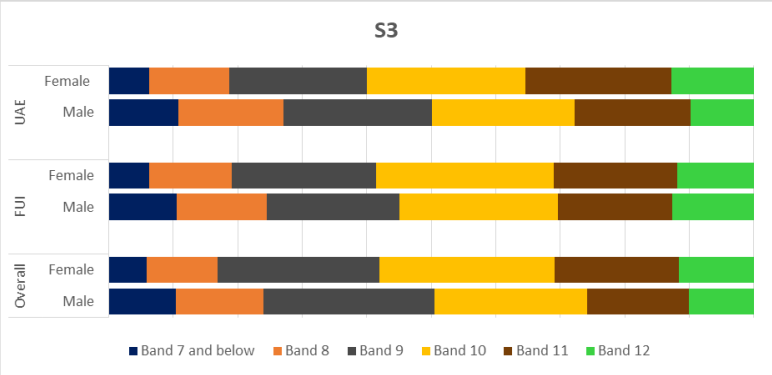
Among P4 learners, there was a notably larger proportion of boys than girls who achieved overall outcomes in the lower two bands, while there were relatively larger percentages of girls with outcomes in the two upper capacity bands. There were similar differences for Finding and using information and Understanding, analysing and evaluating.

Chart 10c: Reading outcomes distributed by sex for P7



At P7, there were larger proportions of girls than of boys achieving outcomes in the two upper bands, although these differences in proportions were somewhat smaller than among learners at P4. Again, there were similar differences when considering only assessment material related to Finding and using information and Understanding, analysing and evaluating.

Chart 10d: Reading outcomes distributed by sex for S3



Among learners at S3, there were also notably larger proportions of boys than girls who had outcomes in the two lower bands. Among girls, there were higher percentages with outcomes in the two upper bands than was the case among boys. This difference between the two groups was more marked for Understanding, analysing and evaluating. The proportions of girls and boys achieving outcomes in the two upper bands were similar when reviewing outcomes with respect to the organiser Finding and using information.

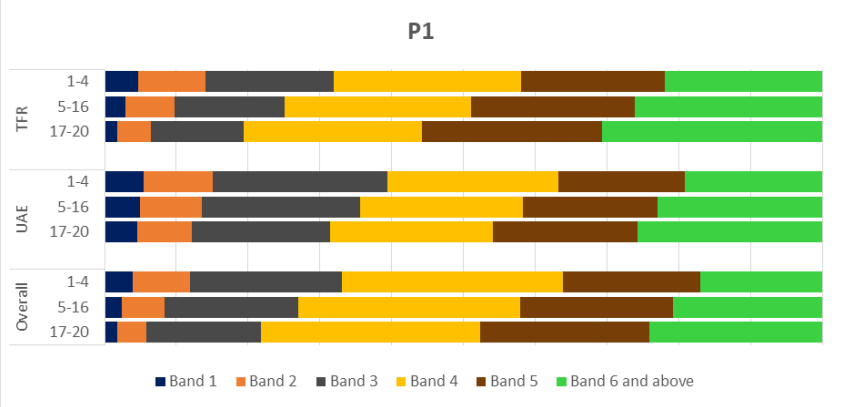
3.3.3 Scottish Index of Multiple Deprivation

This section reviews the distribution of learners for all Stages across categories that reflect the Scottish Index of Multiple Deprivation (SIMD). To simplify the display of outcomes and aid their interpretation, we have divided the original 20 categories (vigintiles) into three combined categories of socio-economic background. These combined categories are: SIMD 1–4, indicating the bottom socio-economic quintile (that is, the most deprived children and young people, those in vigintiles 1 to 4); SIMD 5–16, indicating the three middle quintiles (vigintiles 5 to 16); and SIMD 17–20, indicating the top socio-economic quintile (that is, the least deprived children and young people, those in vigintiles 17 to 20).

At each stage, the proportions of learners with outcomes corresponding to the two upper capacity bands was much larger in the least deprived group (SIMD 17–20). Likewise, there were also relatively higher proportions of learners who achieved outcomes in the two lower bands among learners classified in the most deprived group (SIMD 1–4). This pattern was present across all stages, both for reading/literacy overall and by organiser.

Charts 11a to 11d illustrate that the difference in reading/literacy outcomes between children from the most and least deprived groups (SIMD 1–4 and SIMD 17–20) was relatively small at P1, while it was more substantial at other stages. These observations apply both to overall outcome and when considering only assessment content related to each of the reading organisers.

Chart 11a: Reading outcomes distributed by SIMD* for P1



*The Scottish Index of Multiple Deprivation grades the socio-economic condition of the population over 20 categories (vigintiles). SIMD 1 to 4 correspond to the most deprived 20% of the population. SIMD 5 to 16 correspond to the middle 60% of the population. SIMD 17 to 20 correspond to the least deprived 20% of the population.

At P1, more children in the most deprived group (SIMD 1–4) compared to the least deprived group (SIMD 17–20) achieved outcomes in the two lower bands, while larger numbers of children in the least deprived group (SIMD 17–20) achieved outcomes in the two upper bands. These differences were somewhat larger when considering only assessment items pertaining to the organiser Tools for reading.

Chart 11b: Reading outcomes distributed by SIMD for P4

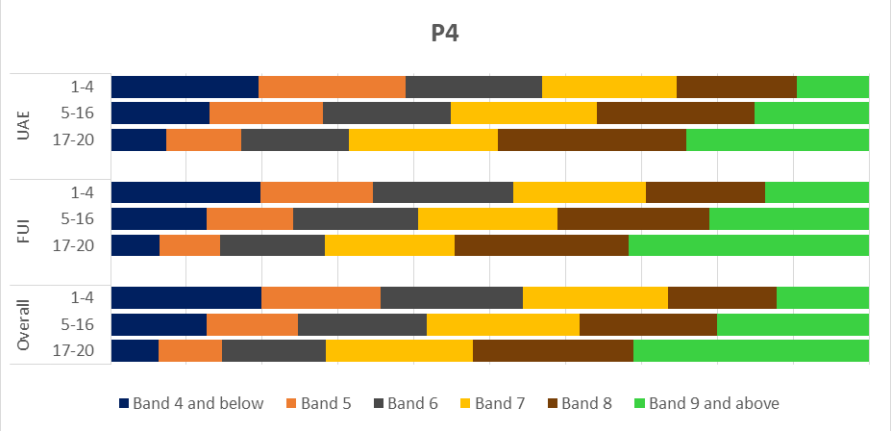


Chart 11c: Reading outcomes distributed by SIMD for P7

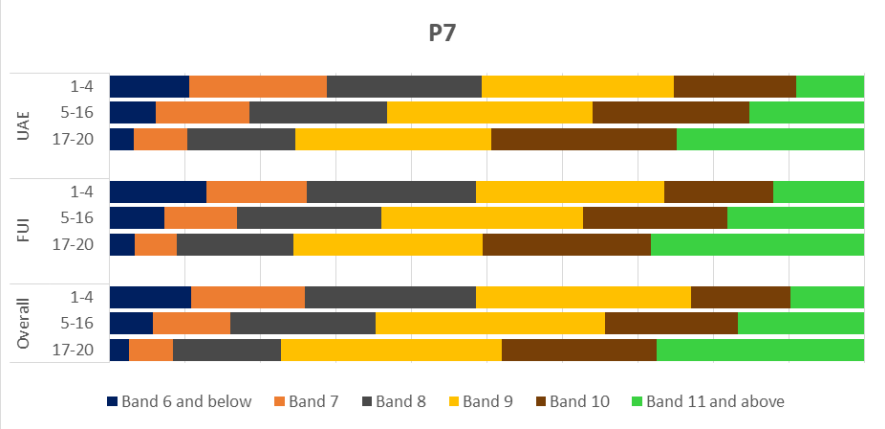
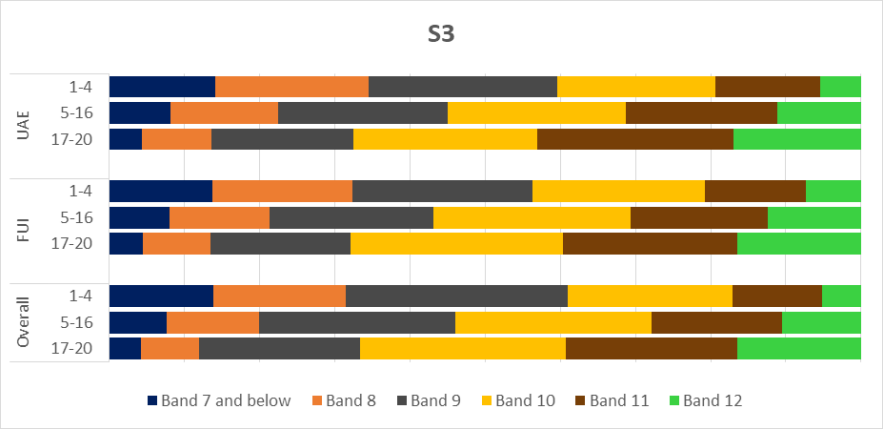


Chart 11d: Reading outcomes distributed by SIMD for S3



At P4, P7 and S3, a similar picture emerged but there were more marked differences in the proportions of learners with higher or lower outcomes when comparing the most deprived and least deprived groups. Among learners from the most deprived group, there were much higher percentages in the lower two capacity bands, whereas much larger numbers of learners in the least deprived group achieved outcomes in the top two bands. In all three stages, less than a third of learners from the most deprived group achieved outcomes corresponding to the two upper bands, while those from the least deprived group had much higher proportions with outcomes in the two upper bands. In P4 and P7, around twice as many learners in the least deprived group had outcomes in the upper two bands when compared with the most deprived group. There were similar outcomes when considering Finding and using information and Understanding, analysing and evaluating.

3.3.4 Ethnic background

This section looks at differences in reading/literacy outcomes between learners classified as having 'White Scottish' and other ethnic backgrounds. Charts 12a to 12d show the proportions of learners with outcomes in each of the reading bands within each of these two groups.

The outcomes show that generally there were only minor differences in percentages for bands across the two comparison groups. This was true when reviewing the overall reading outcomes and when considering the organisers separately. At P1, the proportions of children with outcomes in the top two bands were very slightly larger for children from 'White Scottish' backgrounds. In P4, P7 and S3, there were slightly higher proportions of learners with other ethnic backgrounds in the top two bands, as compared with learners with a 'White Scottish' background.

Chart 12a: Reading outcomes distributed by ethnic background for P1

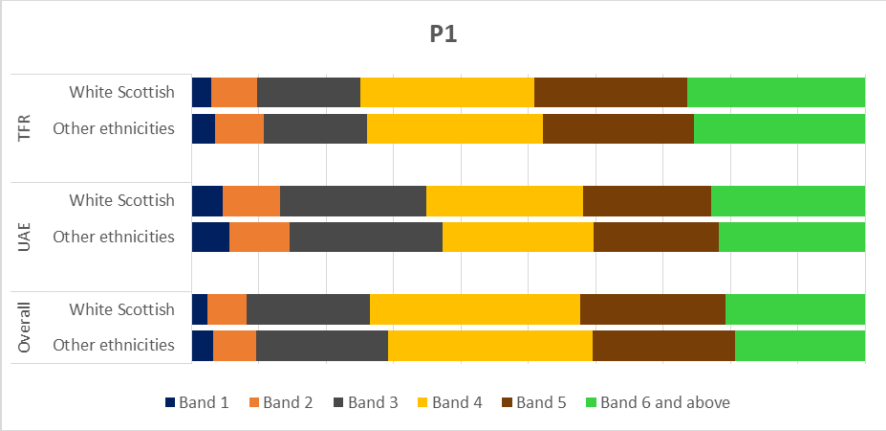


Chart 12b: Reading outcomes distributed by ethnic background for P4

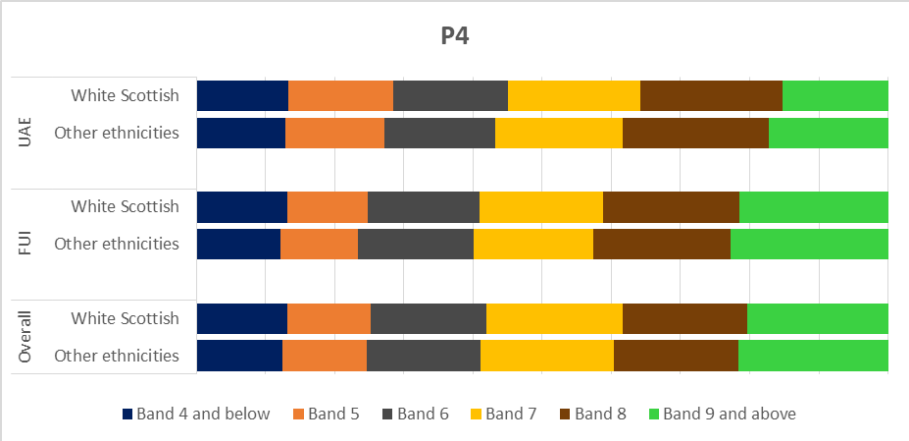


Chart 12c: Reading outcomes distributed by ethnic background for P7

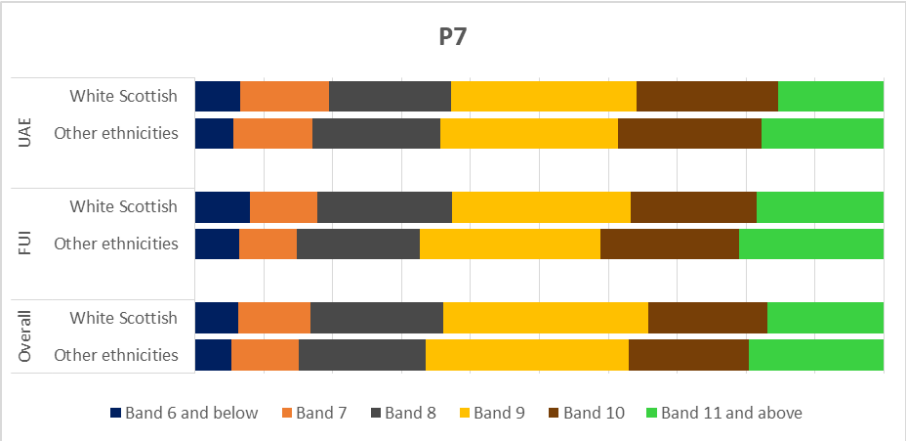
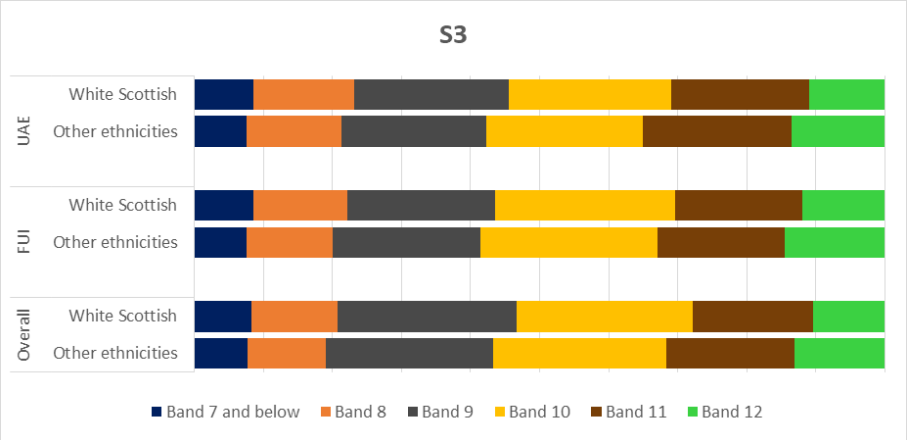


Chart 12d: Reading outcomes distributed by ethnic background for S3

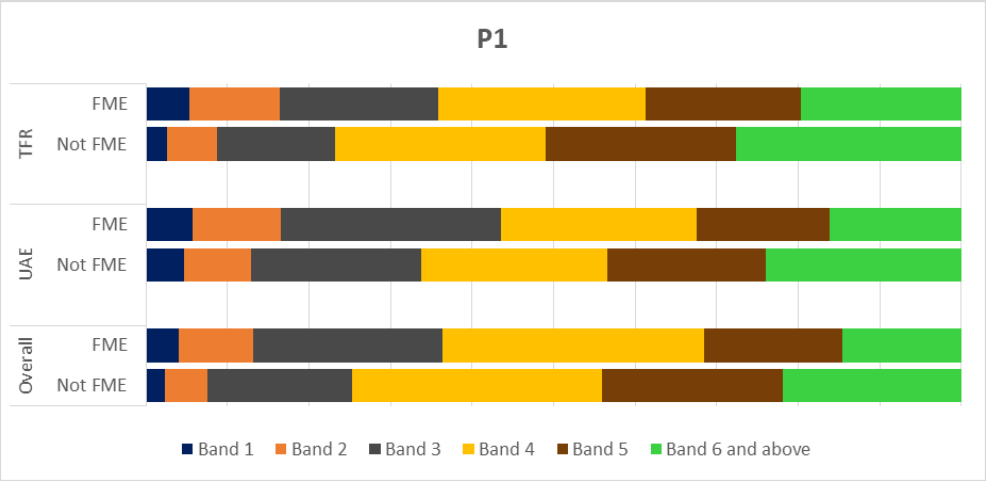


3.3.5 Free School Meal Entitlement

Charts 13a to 13d show the proportions of learners achieving outcomes across reading/literacy capacity bands, when comparing two groups defined by entitlement to free school meals. For these analyses, we distinguished those with registered entitlement from all other learners.[5]

Across all stages, there were noticeably larger proportions reflecting outcomes in the two upper bands among learners without FME than among those with FME. There were also correspondingly higher proportions of learners with FME achieving outcomes in the two lower bands. This pattern was similar across all stages and was present for reading/literacy overall and by organiser.

Chart 13a: Reading outcomes distributed by FME for P1



[5] The category 'FME' refers to those learners whose record in SEEMiS, the national database, showed that they were registered for Free School Meals. The 'Not FME' category comprises both learners for whom there was a 'not registered' entry and those for whom there was no entry regarding free school meals.

At P1, a review of the overall reading outcomes shows that just under half of the children without FME achieved outcomes in the two upper bands, while less than a third of those with FME achieved outcomes in these two bands. Differences were also similar when considering only assessment content related to each of the organisers: Tools for reading and Understanding, analysing and evaluating.

Chart 13b: Reading outcomes distributed by FME for P4

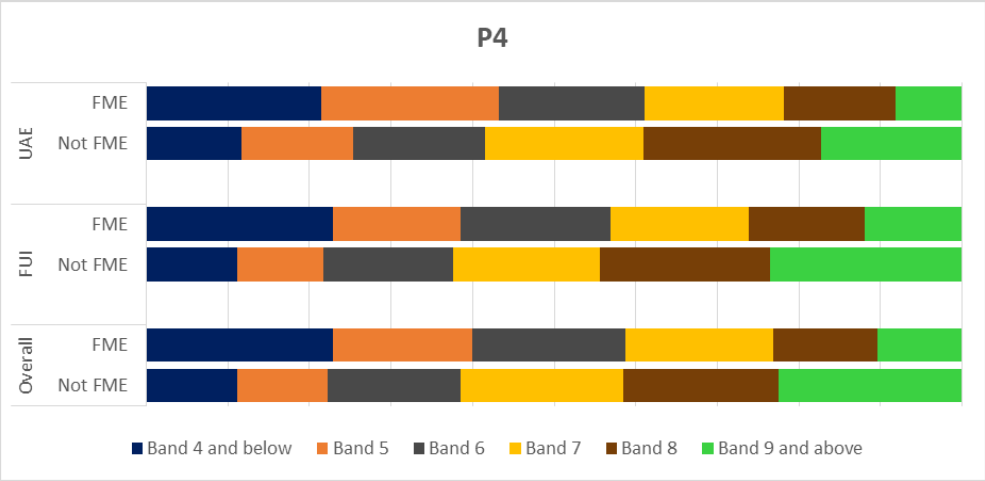
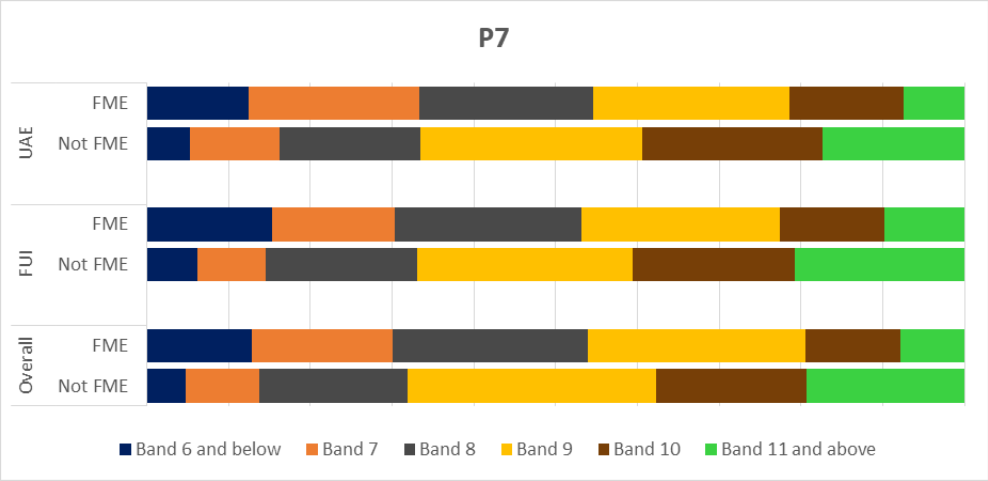
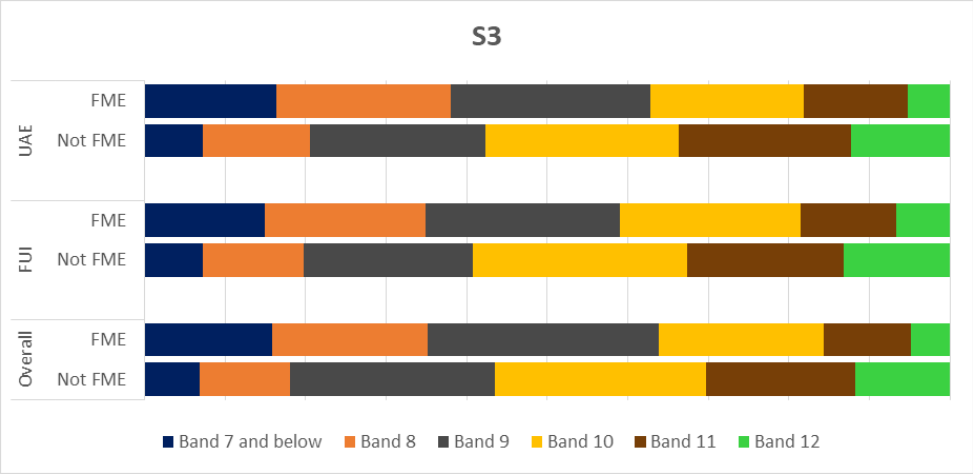


Chart 13c: Reading outcomes distributed by FME for P7



At P4 and P7, there were larger differences between the FME and not FME groups, for overall reading outcomes and for when considering assessment content for each of the two relevant organisers, separately.

Chart 13d: Reading outcomes distributed by FME for S3



Among learners at S3, the differences in proportions of learners with outcomes in the two upper capacity bands, across the two comparison groups, were slightly smaller than in P4 and P7.

3.3.6 Additional Support Needs

Charts 14a to 14d show the proportions of learners achieving outcomes across six reading/literacy capacity bands in each of the stages, comparing the outcomes between those who were identified as having Additional Support Needs (ASN) and all others.

Across all stages, there were notably higher proportions of learners with no ASN classification who achieved outcomes in the two upper bands. There were also notably larger proportions of learners classified with ASN who obtained outcomes in the lower two bands. This pattern was seen across all stages.

At P1, these differences between the two groups were somewhat smaller than at other stages.

Chart 14a: Reading outcomes distributed by ASN for P1

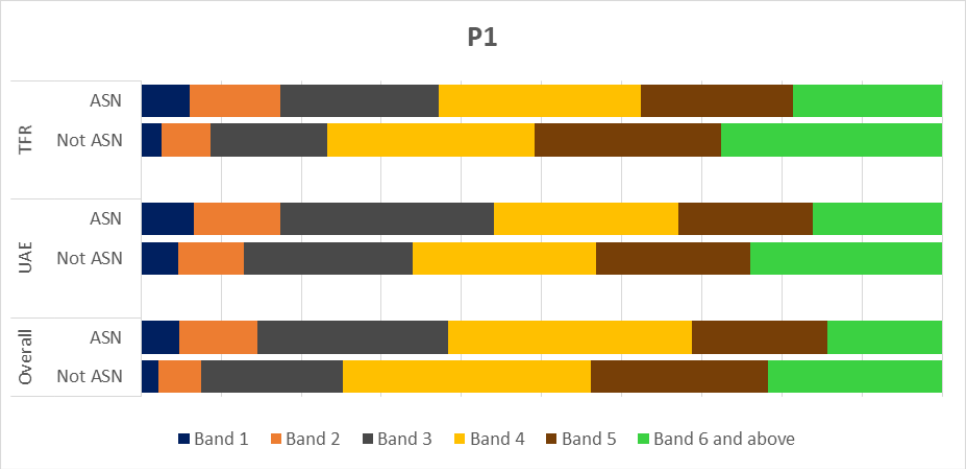


Chart 14b: Reading outcomes distributed by ASN for P4

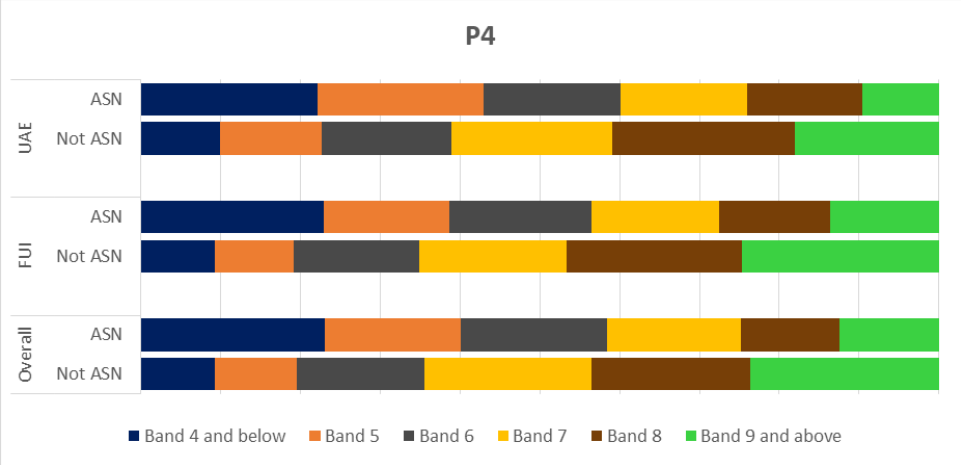


Chart 14c: Reading outcomes distributed by ASN for P7

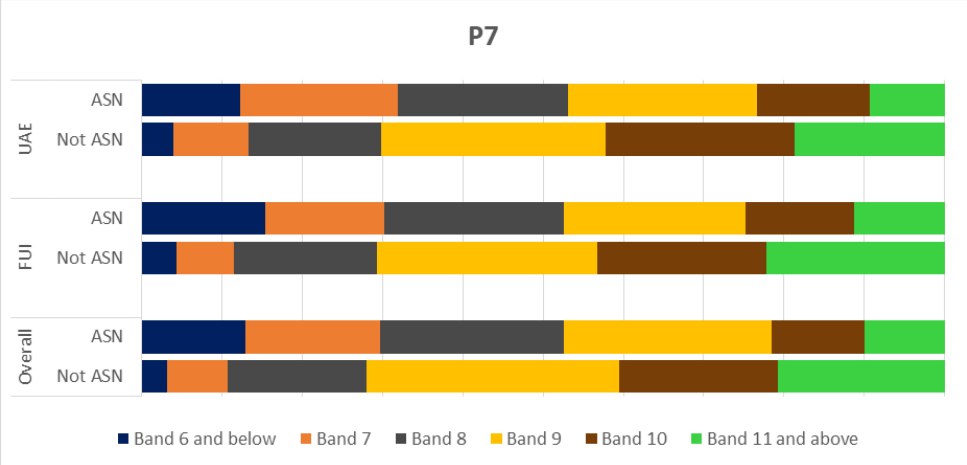
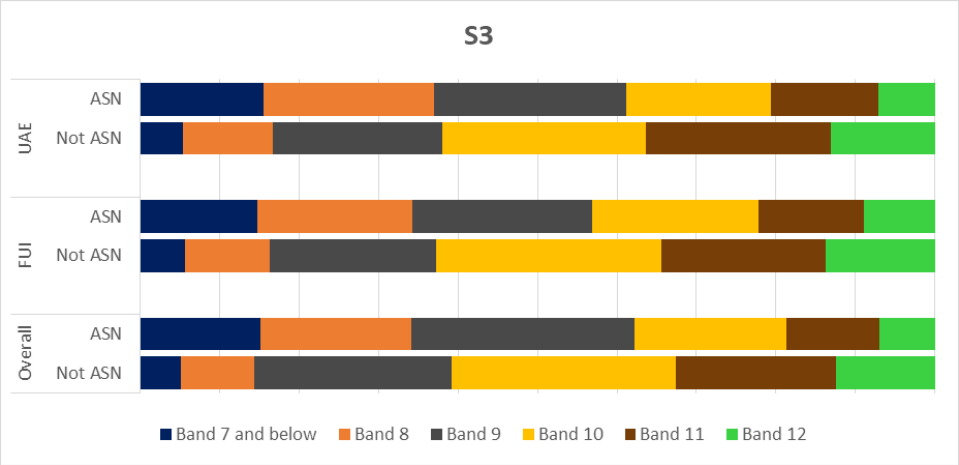


Chart 14d: Reading outcomes distributed by ASN for S3



3.3.7 Looked After Children at Home and Looked After Children Away from Home

Charts 15a to 15d show the proportions of learners achieving outcomes across the corresponding six capacity bands in reading/literacy by categories comparing learners classified as Looked After Children at Home (LAH) and/or Looked After Children Away from Home (LAA) with all other learners.

There were notably lower proportions achieving outcomes in the top two bands among learners who are registered as LAH and/or LAA than among other learners. Similarly, among LAH and/or LAA learners, there were also much larger proportions with outcomes in the lower two bands than among other learners. This pattern was very similar across all stages, when considering outcomes by organiser.

At P1, we found somewhat smaller differences among the comparison groups than at higher stages (P4, P7 and S3); similar observations were made with regard to comparisons related to SIMD and FME.

Chart 15a: Reading outcomes distributed by LAH/LAA for P1

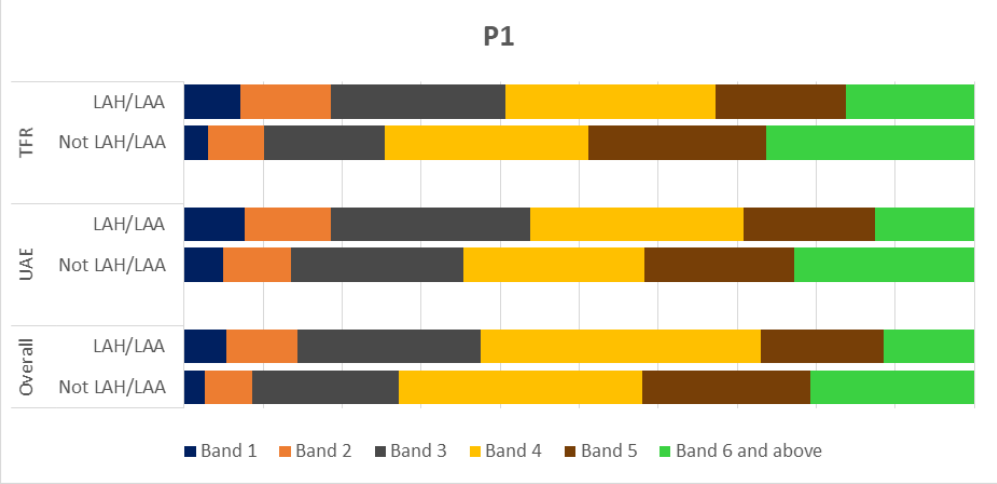


Chart 15b: Reading outcomes distributed by LAH/LAA for P4

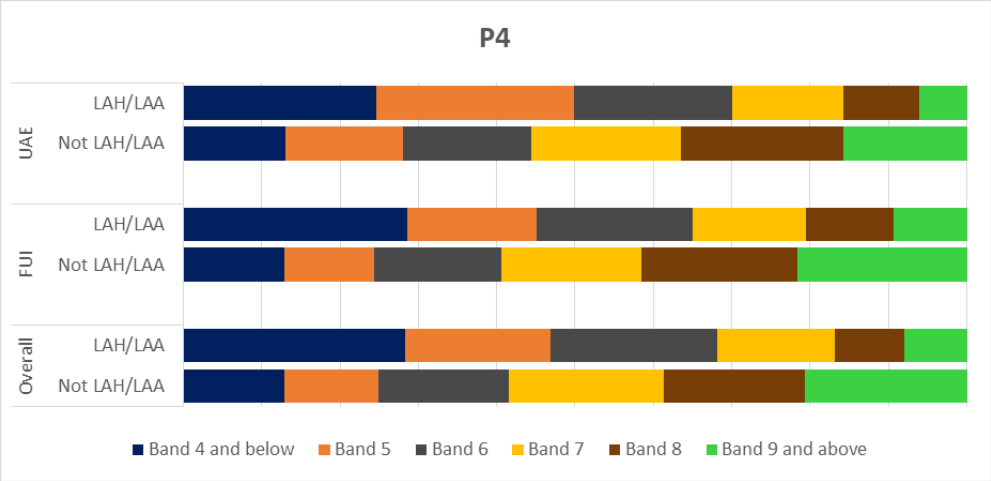


Chart 15c: Reading outcomes distributed by LAH/LAA for P7

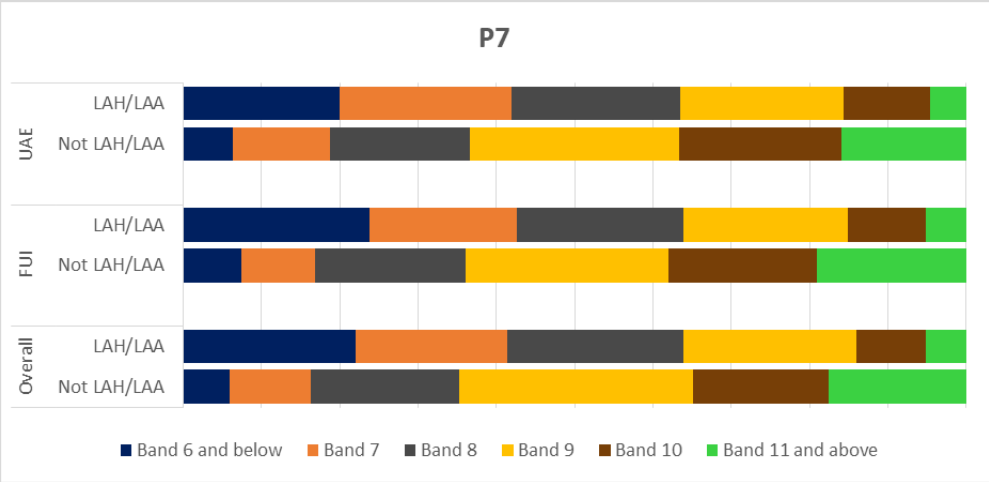
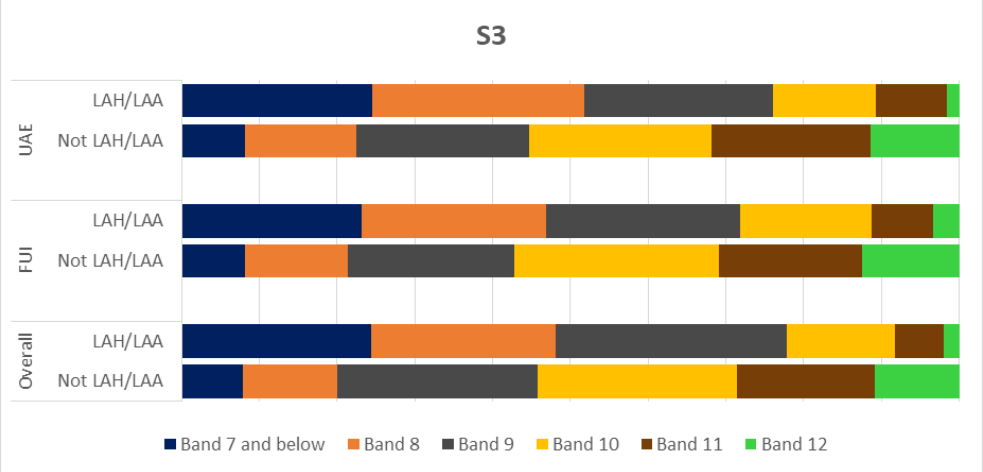


Chart 15d: Reading outcomes distributed by LAH/LAA for S3



3.3.8 English as an Additional Language

Charts 16a to 16d compare learners by language background: English as an Additional Language (EAL) compared with all other learners. The category 'EAL' refers to those learners whose record in SEEMiS showed that they had English as an additional language. The 'Not EAL' category comprises both learners who were recorded as not having EAL and those for whom there was no entry in this field.

There were relatively small but notably higher proportions of learners without EAL in the top two bands, both in terms of overall outcome, and when considering separately assessment content related to each individual organiser. The pattern was very similar across all stages.

Chart 16a: Reading outcomes distributed by EAL for P1

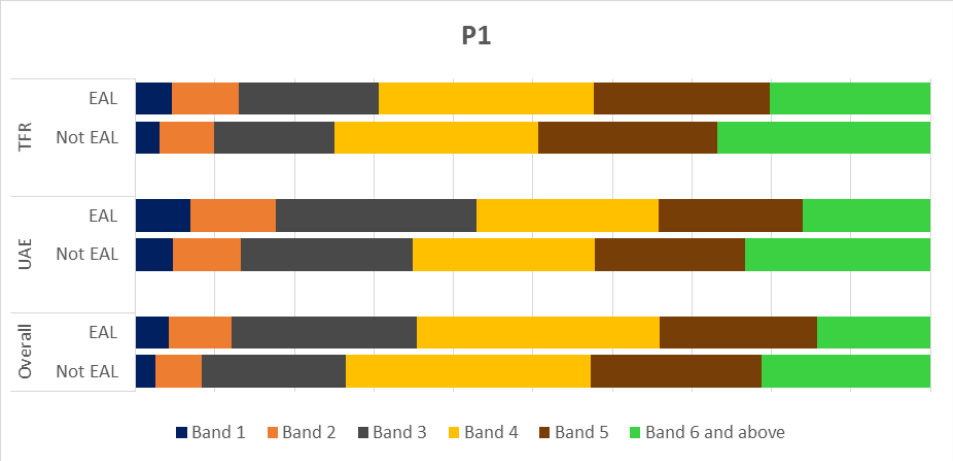


Chart 16b: Reading outcomes distributed by EAL for P4

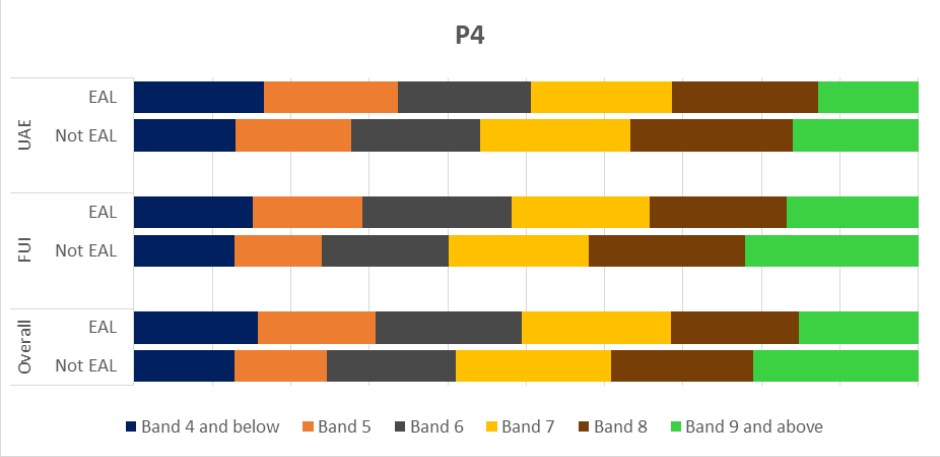


Chart 16c: Reading outcomes distributed by EAL for P7

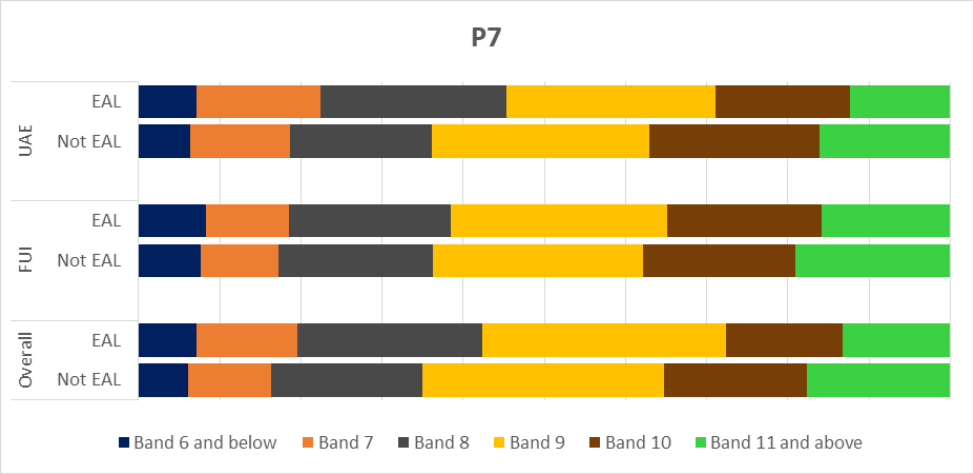
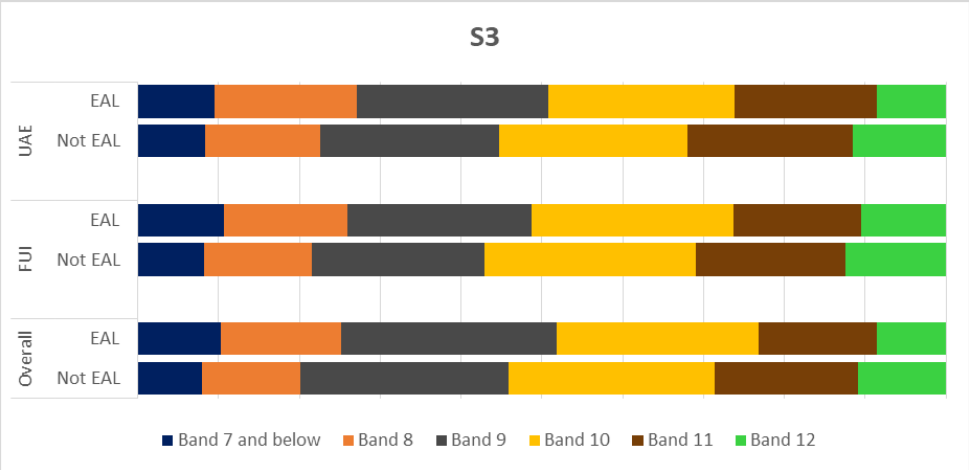


Chart 16d: Reading outcomes distributed by EAL for S3



4 Writing

4.1 The scope of the writing assessment

In the 2018 to 2019 academic year, Scottish National Standardised Assessments in writing were available for P4, P7 and S3. At P1, children were presented with a single assessment combining elements of reading and writing. This is referred to as the P1 literacy assessment. For more information on the P1 literacy assessment, please see Section 3: Reading/Literacy.

The assessments of writing were based on elements of Curriculum for Excellence (CfE), as articulated in the *Benchmarks: Literacy and English*, published in June 2017.

4.2 Coverage of the Curriculum for Excellence: Benchmarks and organisers

SNSA is just one part of the range of assessments that teachers use in making their evaluations of children's and young people's learning. As a standardised assessment to be completed within a limited time, using questions capable of being scored automatically, only some parts of the writing Benchmarks could be addressed. It was agreed that the writing assessments should be based on the assessment organisers Spelling, Grammar and Punctuation, which all fall under the curriculum organiser Tools for writing. Each of the questions selected for inclusion in SNSA writing assessments for the 2018 to 2019 academic year was aligned with a Benchmark statement from Tools for writing.

Spelling, Grammar and Punctuation were all substantially represented in the writing assessments for P4, P7 and S3, with Spelling having a slightly higher weighting in comparison with Grammar and Punctuation. This reflected the importance placed on this area of Tools for writing by the Scottish education experts involved in defining the basis of the assessment. The weighting across the three organisers for each stage in SNSA was roughly the same, and all three assessment organisers were addressed by at least five questions in the stage's full set, and in each learner's assessment, regardless of which path they took through the adaptive system. As such, in the school-level reports, teachers received information about the relationship between the learner's overall outcome and organiser level outcome for each of these areas at an individual learner level. In the rest of this section, features of the assessments of Spelling, Grammar and Punctuation for the three stages are described, with examples of questions for illustration.

4.2.1 Spelling

The writing assessment in the 2018 to 2019 academic year was designed to assess spelling words and strategies, covering the range of skills and the progression articulated in the *Benchmarks*. At the lower levels, learners were assessed on their ability to spell relatively simple and commonly used vocabulary. As the difficulty of the spelling questions increased, and in the higher stage assessments, children and young people were also asked questions to assess their knowledge of less familiar words. To answer the questions correctly, learners may have needed to rely on strategies, such as their knowledge of phonics, spelling patterns and rules, and at the highest level may have been asked to spell specialised vocabulary.

Throughout, spelling was assessed in context, using a range of formats. One format was the cloze style, in which learners had to select the correct spelling from a range of options, either in a single sentence or in a short passage. In another, learners had to identify the incorrectly spelt word in a sentence.

Figure 20 shows a typical Spelling question from the P4 writing assessment.

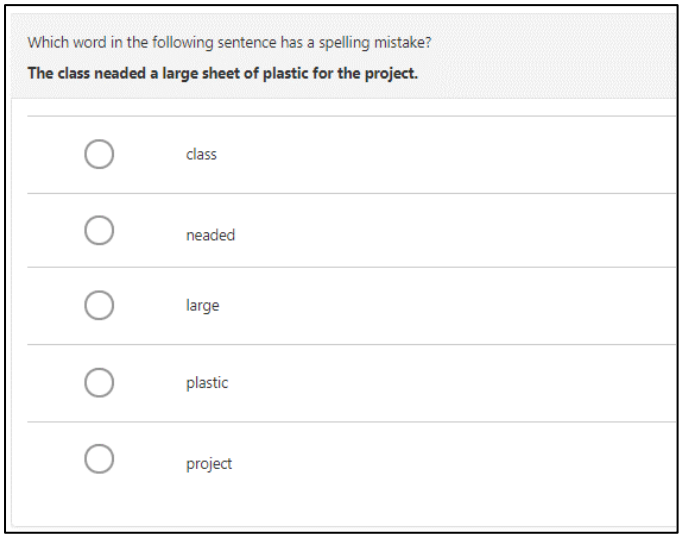


Figure 20: Example of a P4 Spelling item, 'Choose the incorrectly spelt word'

The question presented here required children to identify the incorrectly spelt word in a sentence, from a range of options. This question draws on the writing strategy of proofing and editing, which models for learners the importance of checking their writing to identify errors.

As can be seen in this P4 question, the context provided is a familiar classroom activity and all the words in the brief, grammatically simple sentence are common and relatively short. To answer this question correctly, the learner must know the correct spelling of the common word 'need', or know that the other options given are all spelt correctly. The incorrect options increase the difficulty of this item, as the third and fourth options include some slightly less familiar words ('plastic' and 'project'). This question is from the low end of the question difficulty range for P4. It was presented to learners that had found the first phase of the assessment relatively challenging. A minority of these learners answered it correctly.

4.2.2 Grammar

This organiser focuses on general grammar points, addressing the skills, knowledge and understanding articulated in the *Benchmarks*. At P4, for example, it assessed children's ability to link sentences using common conjunctions, such as 'and', 'because' or 'but', while at the higher stages, a fuller and more complex range of conjunctions was assessed. Questions addressing the Grammar organiser also assessed usage of prepositions, verb forms, adjectives and pronouns. At P4, the questions tended to relate to simple sentences. At P7 and S3, the challenge was increased by introducing longer, more complex language structures, such as compound sentences, conditionals and negative clauses; or by asking questions for which the child or young person needed to identify the relationship between two pronouns, where there was some ambiguity. In summary, as well as the grammar

itself becoming more challenging, the contexts in which learners were asked to demonstrate their skills became more complex in the higher stage assessments.

Figure 21 presents an example of an S3 Grammar question, a typical example of the cloze (or gap fill) writing questions. As in the reading assessments, SNSA writing questions were often presented as ‘units’: a group of questions based on a single piece of stimulus. These units enabled more sustained context to be provided, and were used to assess all three writing assessment organisers. This stimulus text uses quite commonplace, simple vocabulary, but the sentence structures are relatively complex, allowing for a range of grammatical forms to be addressed.

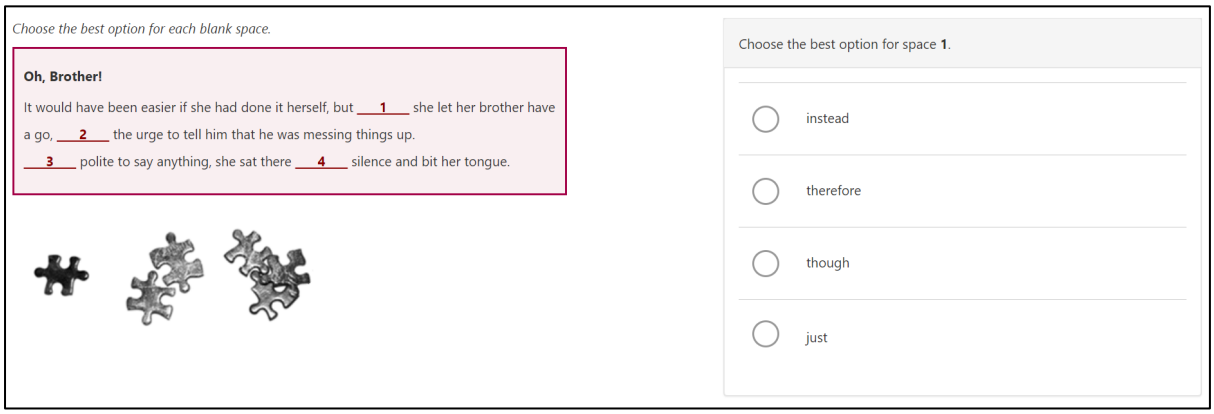


Figure 21: Example of an S3 writing unit with a Grammar question, ‘Oh Brother Question 1’

In this question, young people were asked to identify the correct adverb to fill the first space in the text, from a given range of options. Since all the options provided would be grammatical matches for the sentence and, apart from the last option (just), fit syntactically in the sentence, this question assesses the learners’ knowledge of the meaning of these cohesive devices and their correct application in context. This question was rated as coming from the low end of the question difficulty range. It was presented to learners who had found the first phase of the assessment relatively challenging. Most of these learners were able to answer this question correctly.

The question in Figure 22 is based on the same text as that in Figure 21, and asks about the second space in the given paragraph. In contrast to the first question, which requires an understanding of the meaning of the options presented, this second question clearly addresses knowledge of the correct lexical form, rather than meaning. Learners were asked to choose the participle required by the sentence structure.

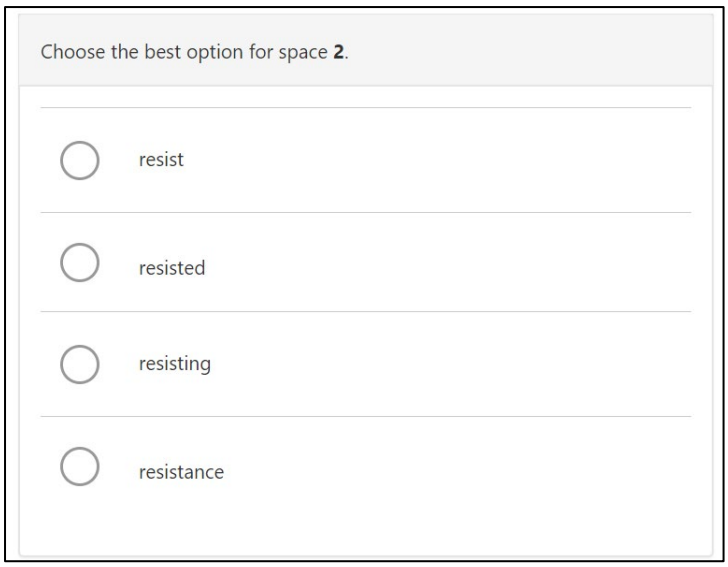


Figure 22: Example of an S3 writing unit with a Grammar question, 'Oh Brother Question 2'

This question comes from the middle of the question difficulty range for the S3 writing assessment and was answered correctly by a majority of those learners to whom it was presented.

4.2.3 Punctuation

The 2018 to 2019 SNSA assessed the organiser Punctuation in a variety of ways. These included asking learners to identify the location of a given punctuation mark, to choose between sentences to identify the correctly punctuated example, and to choose the missing punctuation in a sentence from a range of options.

In the P4 assessment, questions from this organiser focused mainly on the full stop, question mark and exclamation mark, and the correct use of capital letters. This punctuation was assessed in relatively simple sentences. At P7, the range of punctuation was extended to include commas, parentheses and the uses of inverted commas and punctuation within speech, in more complex sentences. At S3, colons and semi-colons were added to the range of punctuation marks addressed, and learners were asked to identify correct usage of punctuation marks in increasingly complex sentences. There was some variation across stages, with more demanding questions at each stage drawing on some content from the stage above.

As for the other writing organisers, questions targeting the Punctuation organiser were presented either using stand-alone sentences or in units that used a passage of text with several questions attached to it.

Figure 23 presents an example of a P7 writing question from the Punctuation organiser. It is a typical example of a question in which children were asked to choose the sentence with the correct punctuation from a range of four or five options.

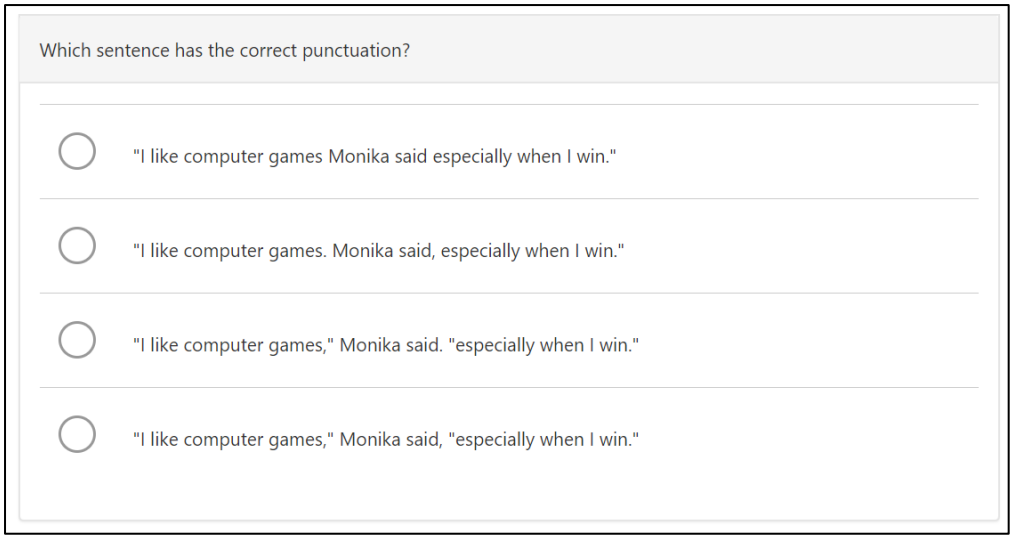


Figure 23: Example of a P7 Punctuation question, ‘Choose the sentence with the correct use of inverted commas’

In this question, children had to identify the correct punctuation, where a single sentence of direct speech is broken up by information about who is speaking. To answer this question correctly, learners had to work through several steps: first, to recognise that Monika is the speaker and not part of the quoted speech; second, identify that the second quoted phrase is a fragment that forms part of a single quoted sentence; and third, show their knowledge of how to use punctuation to link a single sentence broken up by the internal placement of the speaker. This question was answered correctly by a minority of those learners who encountered it. Of the incorrect answers, learners were more likely to select the third option than either of the first two, suggesting that while most learners may have recognised that Monika was the speaker, many of them were not able to correctly punctuate the split quoted sentence.

Figure 24 shows another example of a question from the Punctuation organiser. In this question type, young people were presented with a sentence and asked to identify the correct location of the missing punctuation: in this case, parentheses. The question is from the S3 writing assessment.

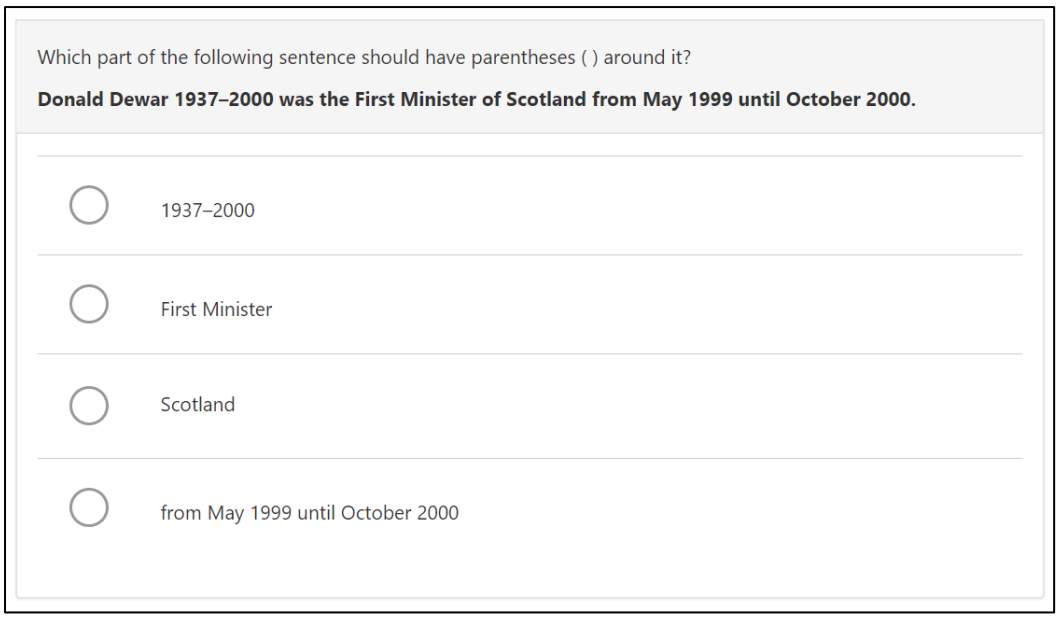


Figure 24: Example of an S3 Punctuation question, 'Identify the location of parentheses'

In this question, a relatively simple sentence uses the context of Scottish history. To answer this question correctly, young people had to identify that lifespan numerals should be put in parentheses. Of the incorrect answers, young people were most likely to select the fourth option. While these learners may have correctly identified that this phrase was not grammatically required by the sentence, they did not recognise the need for parentheses around the lifespan. This question was from the low end of the S3 question difficulty range. It was presented to learners who had found the first two phases of the assessment challenging. Among learners who encountered it, a minority answered this question correctly.

4.3 National outcomes for writing

4.3.1 Overall outcome

Charts 17a to 17c show the percentages of learners with outcomes in each band for writing across all three stages (P4, P7, and S3), both overall and when considering each of the three organisers Spelling (S), Grammar (G) and Punctuation (P) separately. The bar charts indicate the proportions of learners with outcomes in each of the six bands, in line with SNSA reports for the 2018 to 2019 academic year, which are specific to each stage.

The charts show that across all stages and all three organisers, the highest proportions of learners had outcomes corresponding to the two middle bands. The second largest proportion of learners had outcomes corresponding to the two upper bands. There were relatively smaller proportions of learners with outcomes in the two lowest bands; however, among P4 learners, the proportions in these bands were somewhat larger.

Chart 17a: Writing outcomes for P4

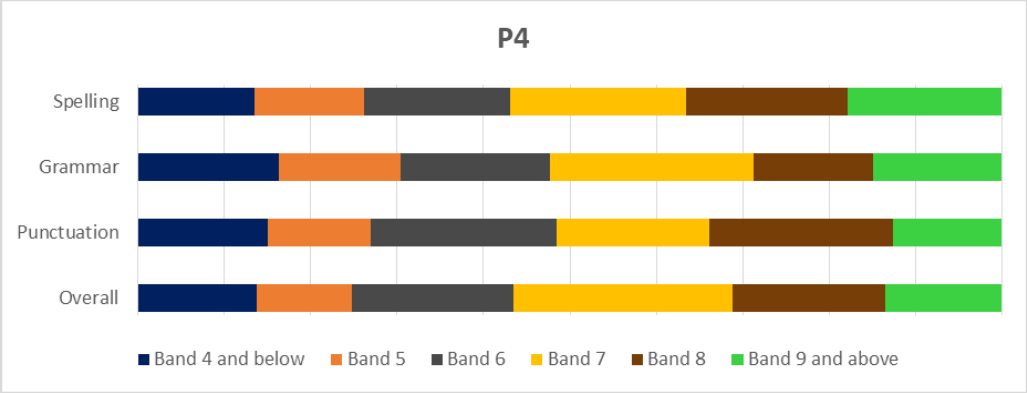


Chart 17b: Writing outcomes for P7

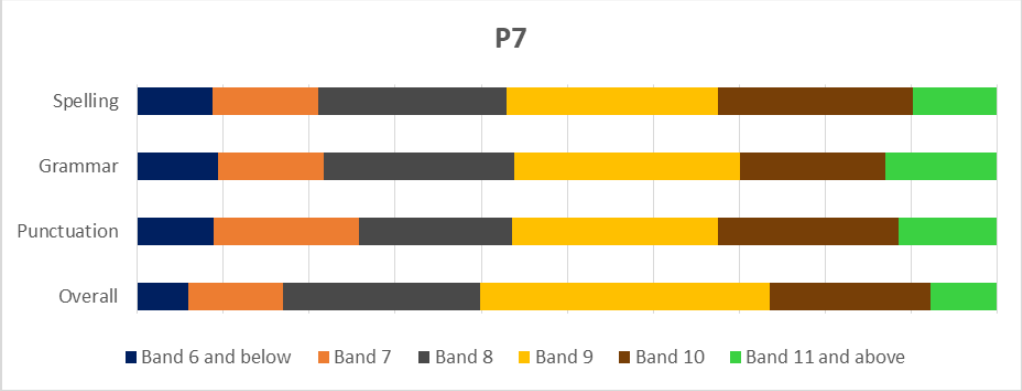
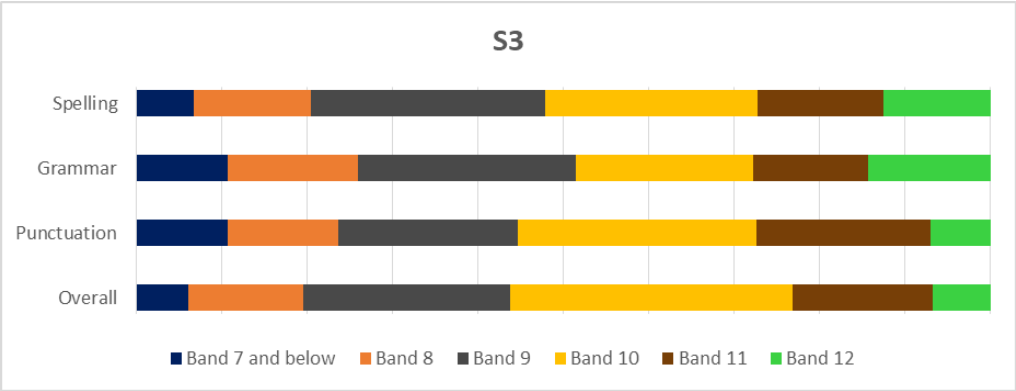


Chart 17c: Writing outcomes for S3

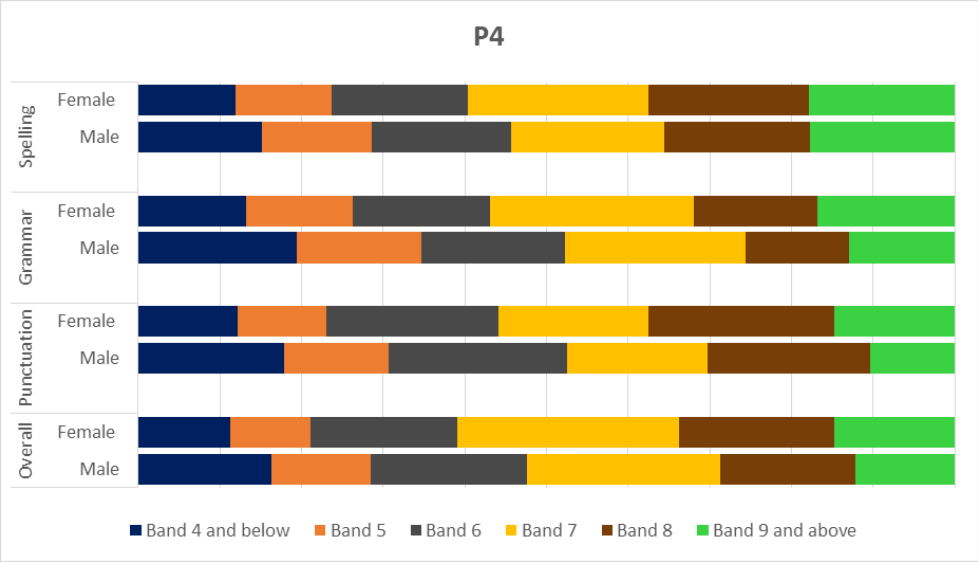


4.3.2 Sex

Charts 18a to 18c show writing outcomes for boys and girls for each stage. Outcomes are given for writing overall and also by organiser.

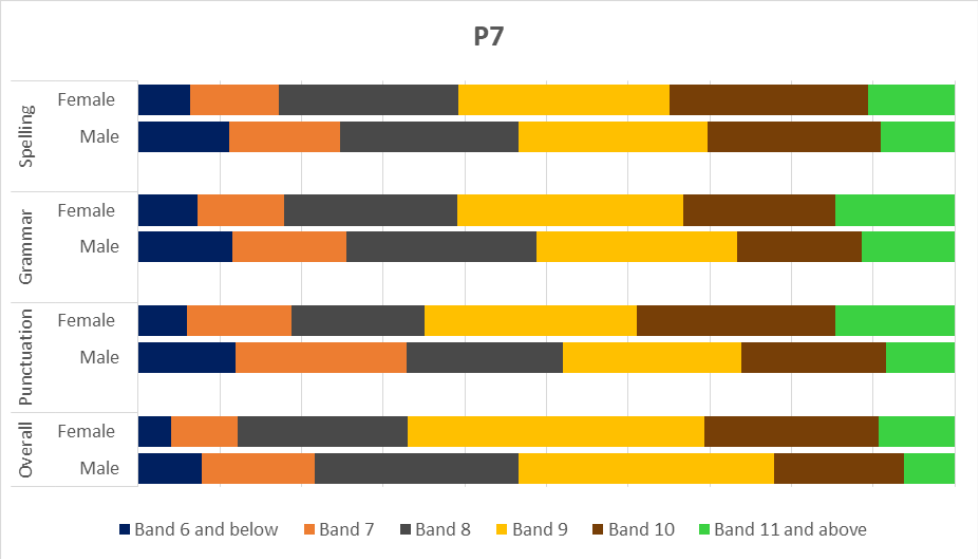
Across all stages, there were notable differences between boys and girls. There were consistently larger proportions of girls with outcomes in the two upper bands than was the case for boys. The percentages of learners with outcomes corresponding to the two lower bands were also smaller among girls than among boys.

Chart 18a: Writing outcomes distributed by sex for P4



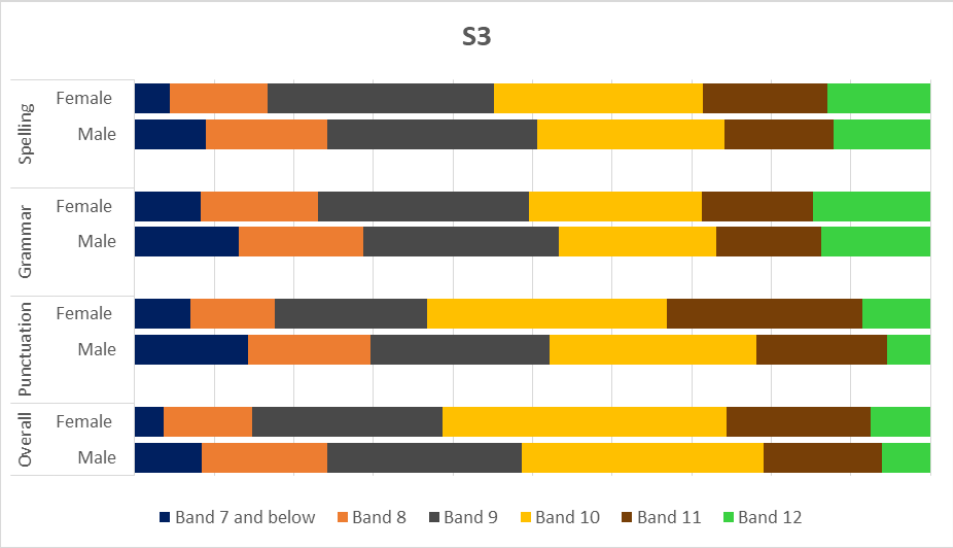
At P4, the largest proportions of boys and girls achieved outcomes in the middle two bands. There were more girls than boys with outcomes in the two upper bands, and fewer girls than boys with outcomes in the lower two bands. There was a similar pattern for each organiser. There were somewhat greater differences in the proportions of girls compared to boys when considering outcomes for Grammar and Punctuation.

Chart 18b: Writing outcomes distributed by sex for P7



At P7, a higher of proportion of girls than boys achieved outcomes in the upper two bands and there was a higher percentage of boys than girls with outcomes in the lower two bands. This finding holds for writing overall and by organiser. There was a notably higher proportion of girls than boys achieving outcomes in the upper two capacity bands for Punctuation.

Chart 18c: Writing outcomes distributed by sex for S3



At S3, the outcomes were quite similar to those at other stages. The differences between the proportions of boys and girls with outcomes in the two highest bands were somewhat smaller than in P7; however, when considering Punctuation, it was again the case that girls achieved higher proportions in the upper two capacity bands.

4.3.3 Scottish Index of Multiple Deprivation

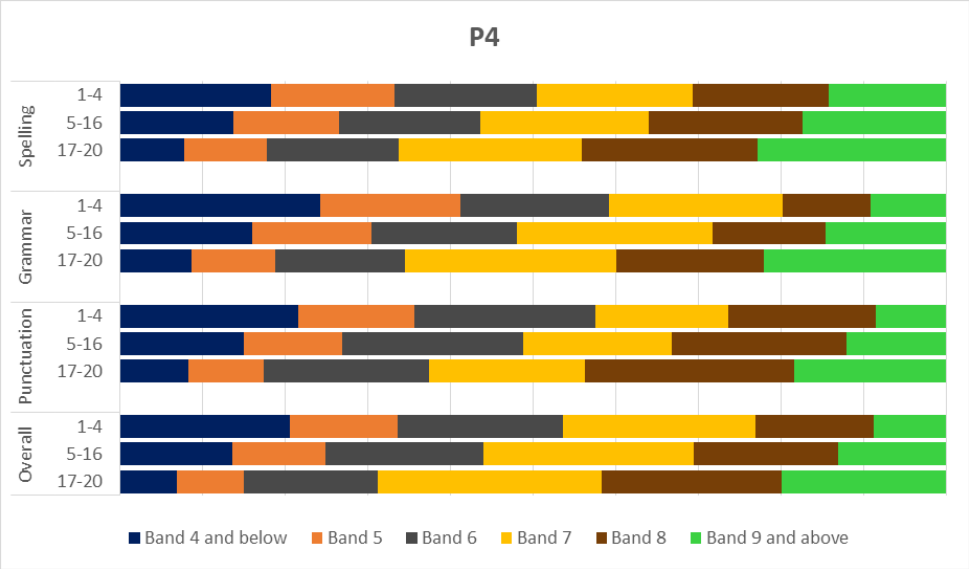
This section reviews the distribution of learners for all stages across categories that reflect the Scottish Index of Multiple Deprivation (SIMD). To simplify the display of outcomes and aid their interpretation, we have divided the original 20 categories (vigintiles) into three combined categories of socio-economic background. These combined categories are: SIMD 1–4, indicating the bottom socio-economic quintile (that is, the most deprived children and young people, those in vigintiles 1 to 4); SIMD 5–16, indicating the three middle quintiles (vigintiles 5 to 16); and SIMD 17–20, indicating the top socio-economic quintile (that is the least deprived children and young people, those in vigintiles 17 to 20).

Charts 19a to 19c illustrate that, at each stage, the proportions of learners in the two upper bands were noticeably larger in the least deprived group, as compared with the most deprived group.

There were also relatively larger proportions of learners with outcomes in the two lower bands in the most deprived group. This pattern was present in all stages, overall, and by each of the three writing organisers: Spelling, Grammar and Punctuation.

The differences in writing outcomes between children from the most and least deprived groups (SIMD 1–4 and SIMD 17–20) were similar across all stages (P4, P7 and S3). More children from the most deprived group (SIMD 1–4) had outcomes in the lower two bands, whereas larger numbers of children in the least deprived group (SIMD 17–20) achieved outcomes in the two upper bands.

Chart 19a: Writing outcomes distributed by SIMD* for P4



*The Scottish Index of Multiple Deprivation grades the socio-economic condition of the population over 20 categories (vigintiles). SIMD 1 to 4 correspond to the most deprived 20% of the population. SIMD 5 to 16 correspond to the middle 60% of the population. SIMD 17 to 20 correspond to the least deprived 20% of the population.

In P4, almost twice as many learners in the least deprived group had outcomes in the two upper bands as compared to those in the most deprived group. At the lower end of the capacity scale, about twice as many learners had outcomes in the two lower bands among learners from the most deprived group as compared to those in the least deprived group. The outcomes were broadly similar for each of the three organisers.

Chart 19b: Writing outcomes distributed by SIMD for P7

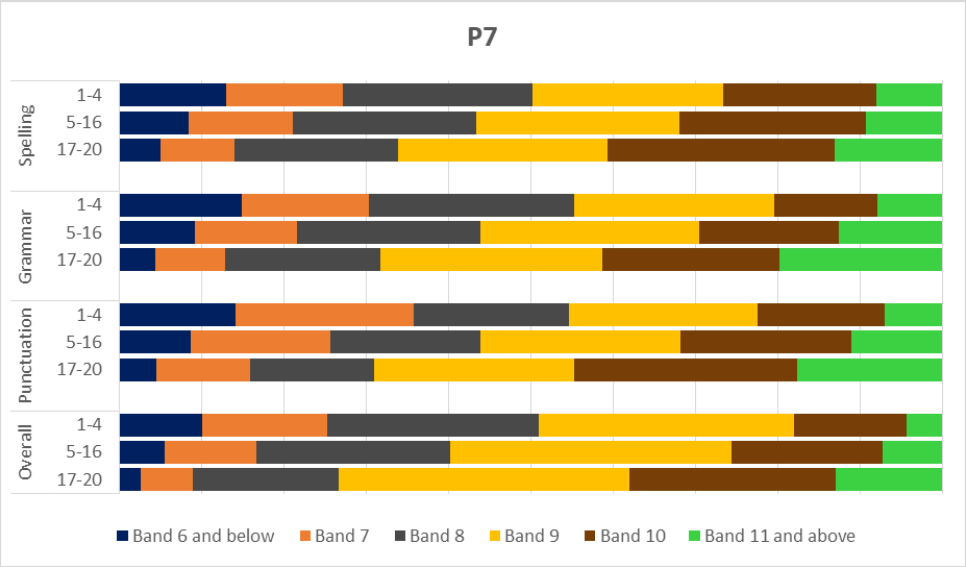
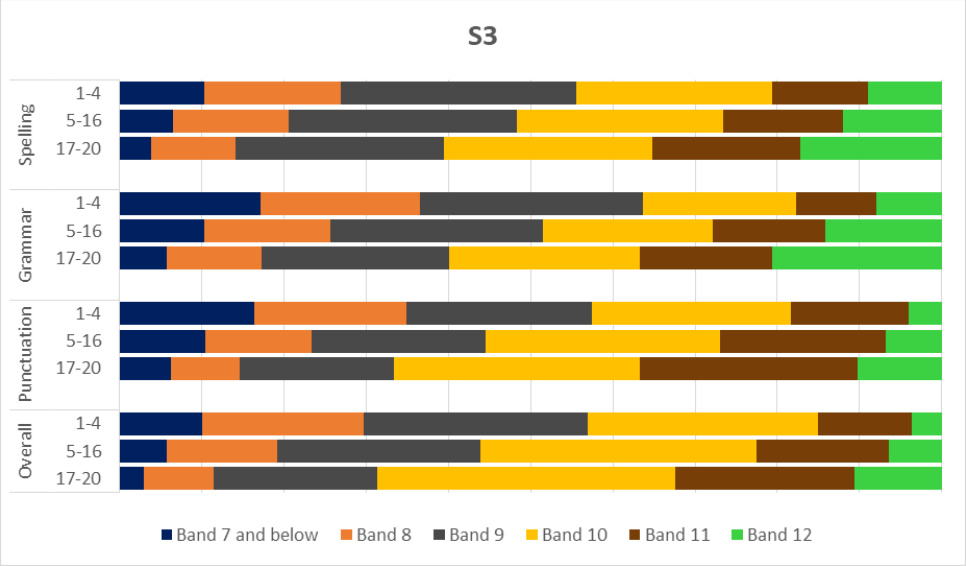


Chart 19c: Writing outcomes distributed by SIMD for S3



Among both P7 and S3 learners, most learners across all SIMD groups had outcomes in the two middle bands. However, among those from the least deprived group, there were much larger proportions of learners with outcomes in the two upper bands than among those in the most deprived group. This pattern was also present in each of the three organisers. However, when considering Spelling, the difference is somewhat smaller.

4.3.4 Ethnic background

This section looks at differences in writing outcomes between learners with 'White Scottish' and other ethnic backgrounds. Charts 20a to 20c show the percentages of learners with outcomes in the bands of reading/literacy for these two groups.

When comparing writing outcomes across the two comparison groups, there were relatively small differences, both in terms of overall outcome and when considering outcomes for each of the three organisers. There were lower proportions with outcomes in the two upper bands among learners from a 'White Scottish' background than among other learners. These differences were less pronounced when considering assessment content related to the organiser Grammar.

Chart 20a: Writing outcomes distributed by ethnic background for P4

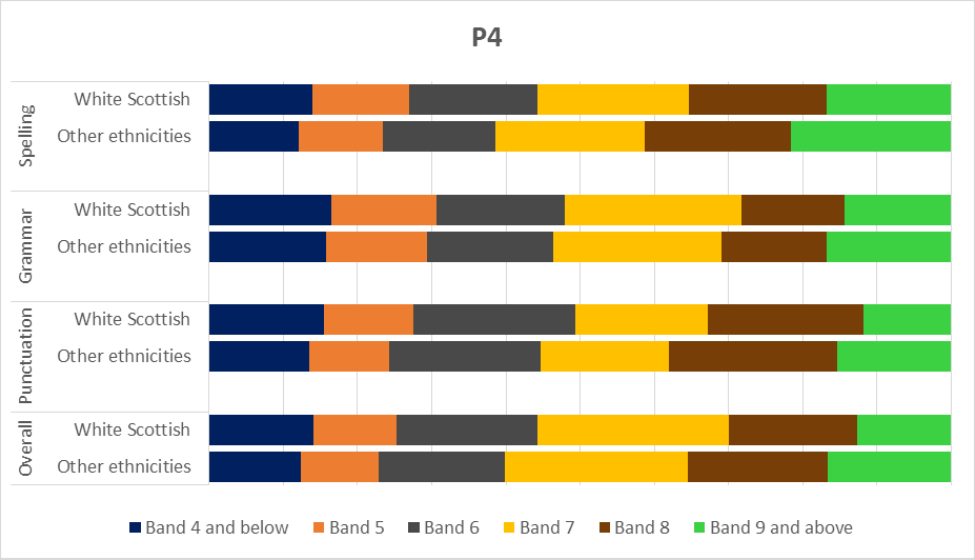


Chart 20b: Writing outcomes distributed by ethnic background for P7

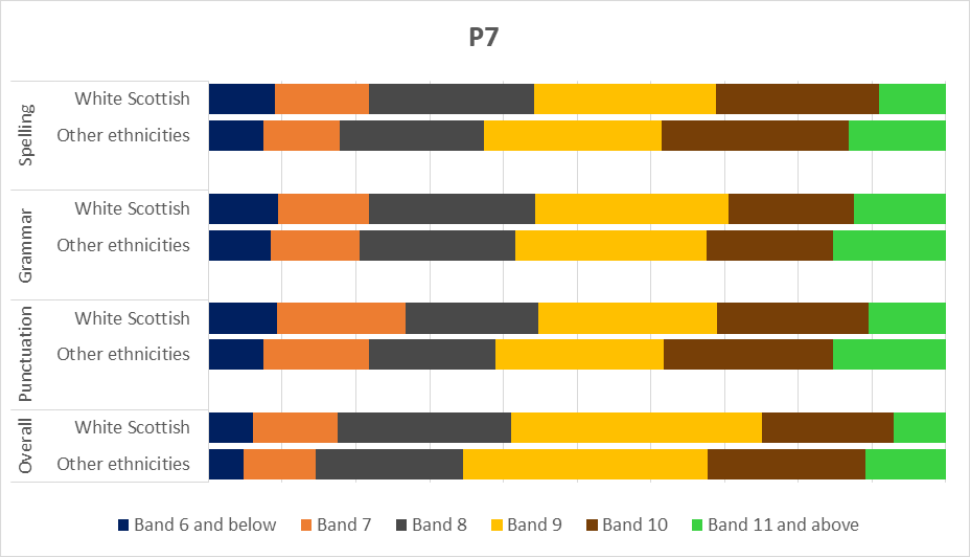
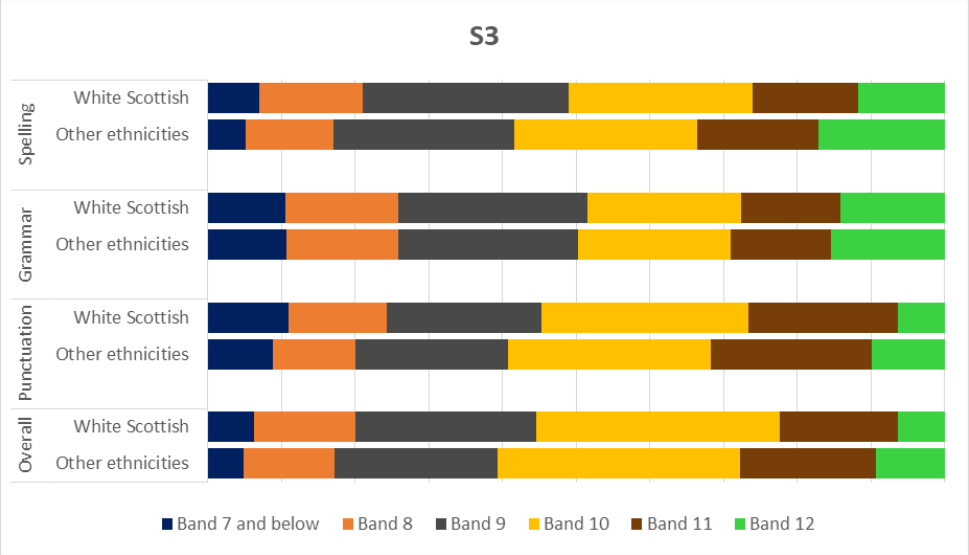


Chart 20c: Writing outcomes distributed by ethnic background for S3

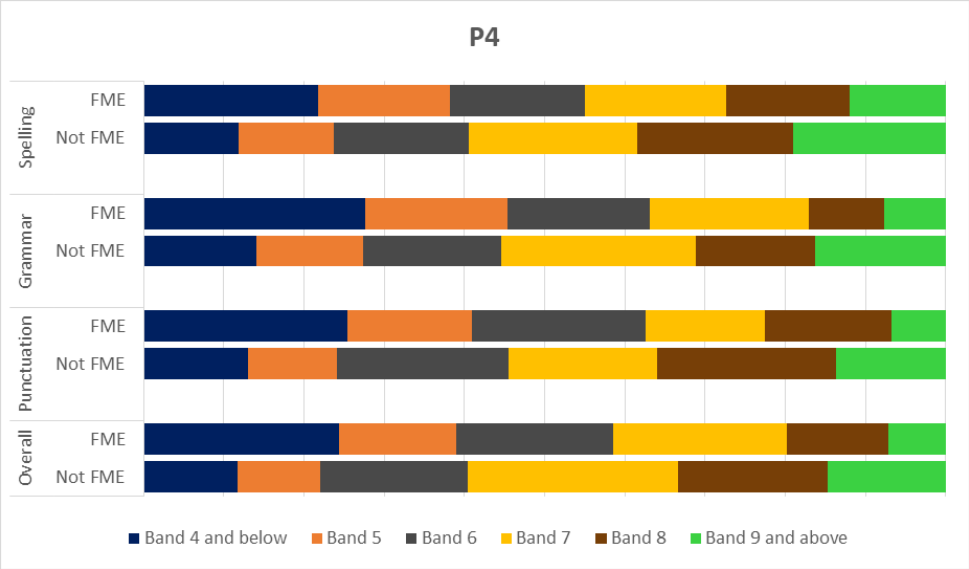


4.3.5 Free School Meal Entitlement

This section reviews differences in writing outcomes between learners with an entitlement to free school meals and other learners.[6] Charts 21a to 21c show the percentages of learners who achieved outcomes in each band within each of the two groups.

There were notably lower percentages of learners with outcomes in the two upper bands among learners registered for FME in comparison to others. There were also relatively higher proportions of learners with outcomes in the two lower bands among learners with FME. This pattern was similar across all stages for each of the three organisers.

Chart 21a: Writing outcomes distributed by FME for P4



[6] The category 'FME' refers to those learners whose record in SEEMiS, the national database, showed that they were registered for Free School Meals. The 'Not FME' category comprises both learners for whom there was a 'not registered' entry and those for whom there was no entry regarding free school meals.

Chart 21b: Writing outcomes distributed by FME for P7

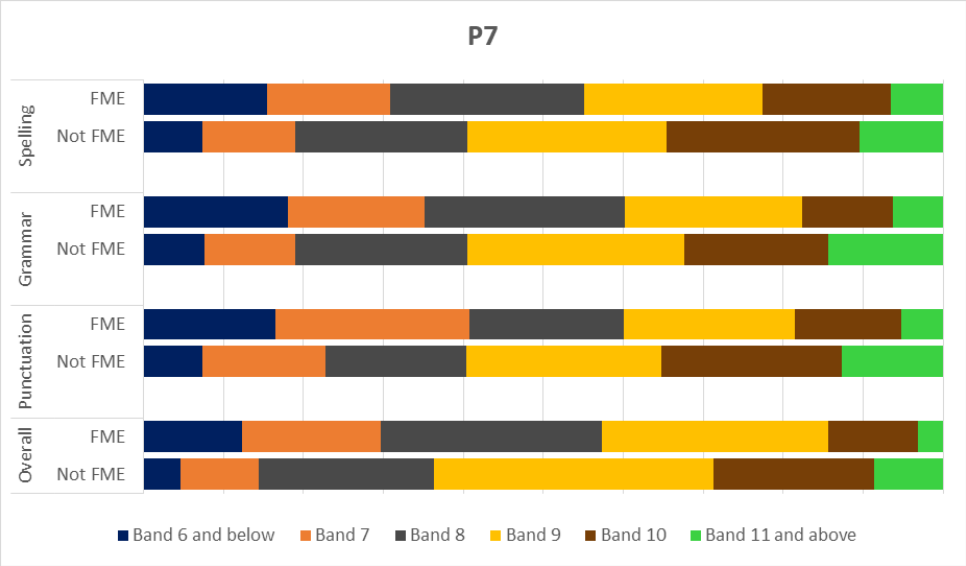
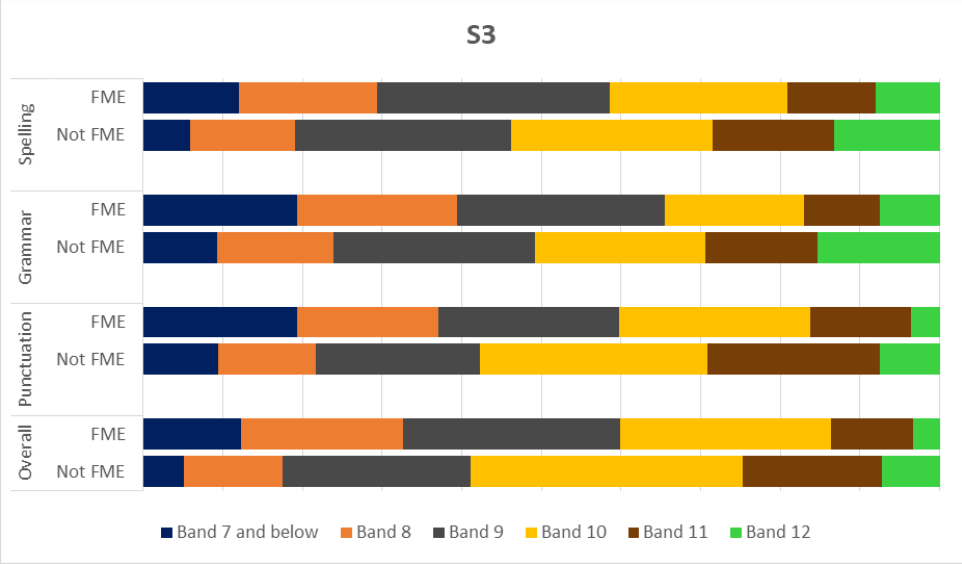


Chart 21c: Writing outcomes distributed by FME for S3



4.3.6 Additional Support Needs

This section reviews differences in outcomes between learners who were identified as having Additional Support Needs (ASN) and others. Charts 22a to 22c show the proportions of learners in the six bands within these two groups across stages.

Across all stages, the percentages of learners with outcomes in the two upper bands were notably higher among learners not identified as having ASN. There were also relatively larger proportions with outcomes in the lower two bands among learners with ASN. Typically, almost twice as many learners with ASN had outcomes in the lower two bands compared to other learners. This pattern was present across all stages and for each of the three writing organisers.

Chart 22a: Writing outcomes distributed by ASN for P4

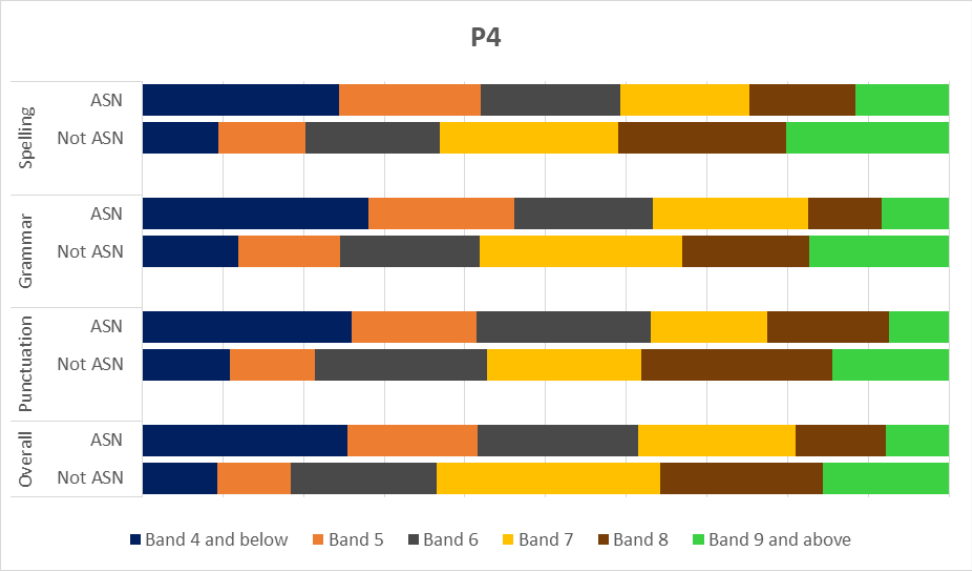


Chart 22b: Writing outcomes distributed by ASN for P7

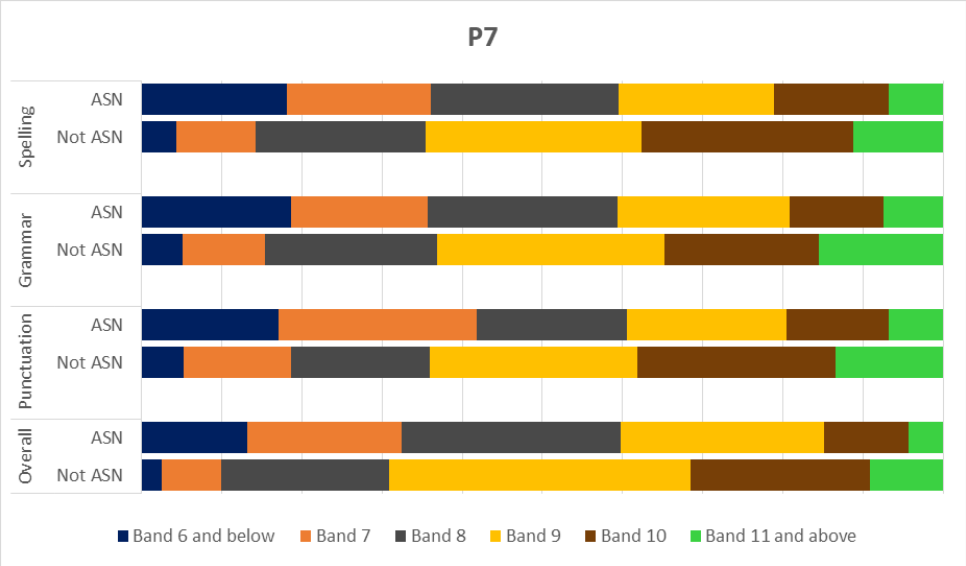
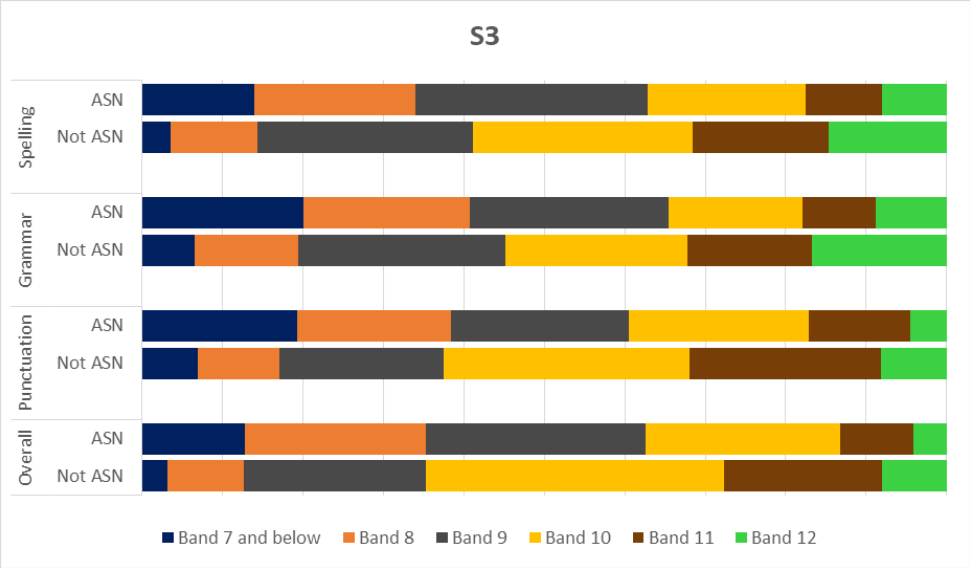


Chart 22c: Writing outcomes distributed by ASN for S3

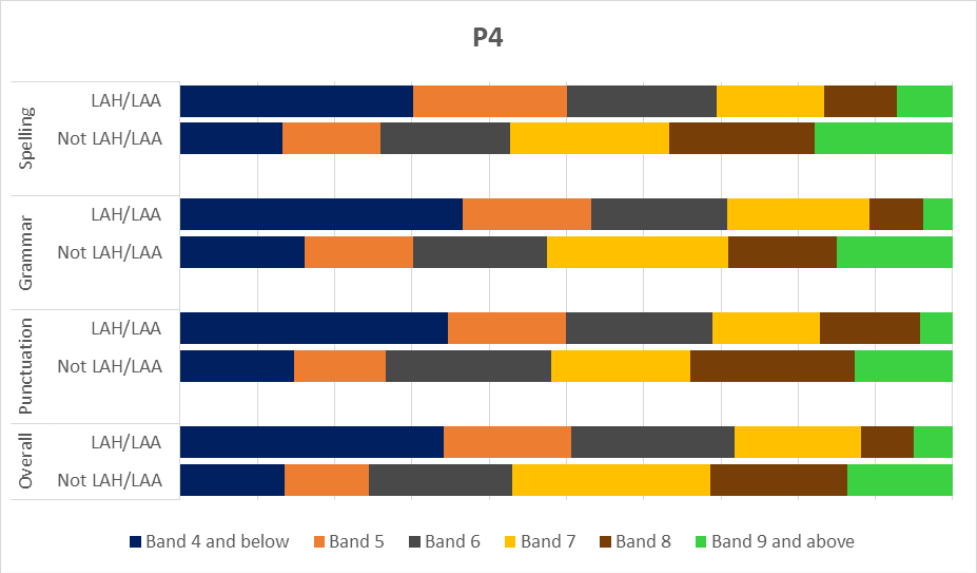


4.3.7 Looked After Children at Home and Looked After Children Away from Home

This sections reviews differences between learners classified (within SEEMiS) as Looked After Children at Home (LAH) or Looked After Children Away from Home (LAA), and other learners without such a classification. Charts 23a to 23c illustrate the proportions of learners with outcomes at each band for learners in these two categories.

Across all three stages, there were notable differences in writing outcomes between the two comparison groups. Among learners classified as LAH and/or LAA, there were considerably lower proportions achieving outcomes in the two upper bands than among other learners; typically, there were two to three times as many learners without LAH and/or LAA achieving outcomes in this region. Likewise, there were much larger proportions of learners with outcomes in the two lower bands for LAH and/or LAA than among other learners. This pattern was similar across all stages, both for writing overall and for each of the three organisers.

Chart 23a: Writing outcomes distributed by LAH/LAA for P4



At P4, about half of the learners with LAH or LAA achieved outcomes in the lower two bands, while a third or fewer among other learners had outcomes in this region.

Chart 23b: Writing outcomes distributed by LAH/LAA for P7

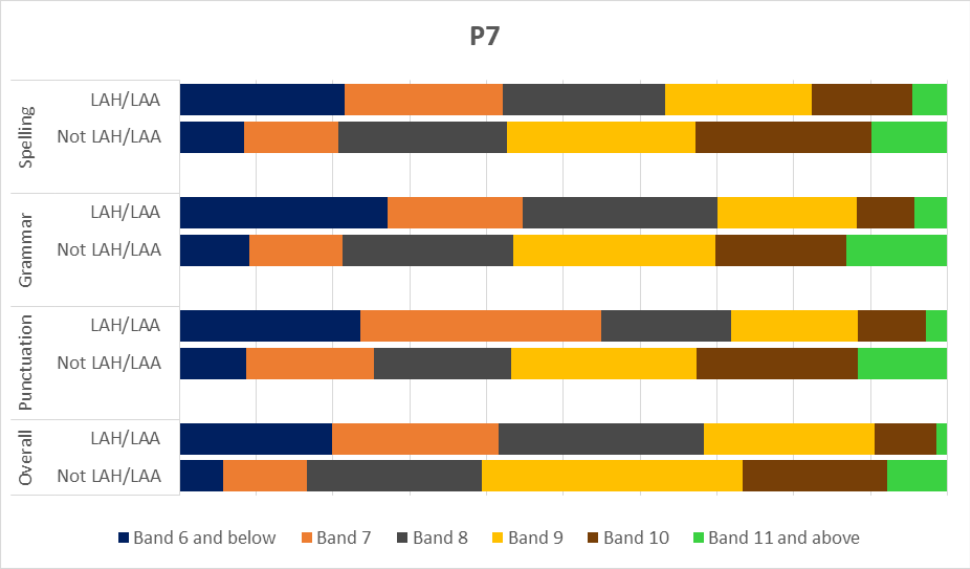
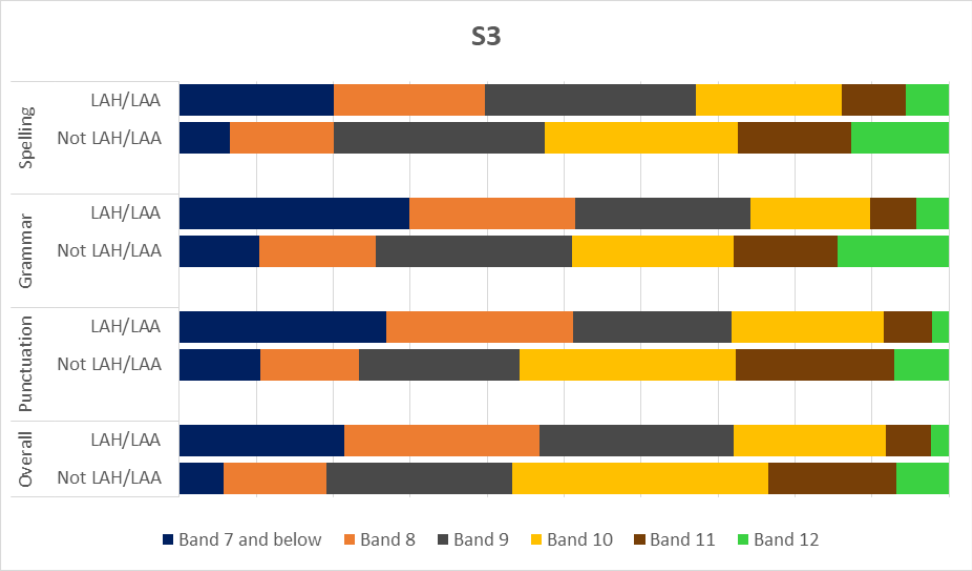


Chart 23c: Writing outcomes distributed by LAH/LAA for S3



In P7 and S3, the proportions of learners with LAH and/or LAA in the two lower bands tended to be slightly smaller, but the size of the differences in outcome for these learners as compared to other learners was similar.

4.3.8 English as an Additional Language

Charts 24a to 24c compare learners by language background: English as an Additional Language (EAL) compared with all other learners. The category 'EAL' refers to those learners whose record in SEEMiS showed that they had English as an additional language. The 'Not EAL' category comprises both learners who were recorded as not having EAL and those for whom there was no entry in this field.

When comparing proportions in bands between groups of learners for whom English is an additional language (EAL) and those with English as their first language, there were minimal differences.

When considering only assessment material related to the organiser Grammar, there were small but notable differences for learners with English as their first language. There were similar differences across all stages. When considering only assessment content related to Spelling, there were very small differences for learners with English as their first language, most notable among learners at P7.

Chart 24a: Writing outcomes distributed by EAL for P4

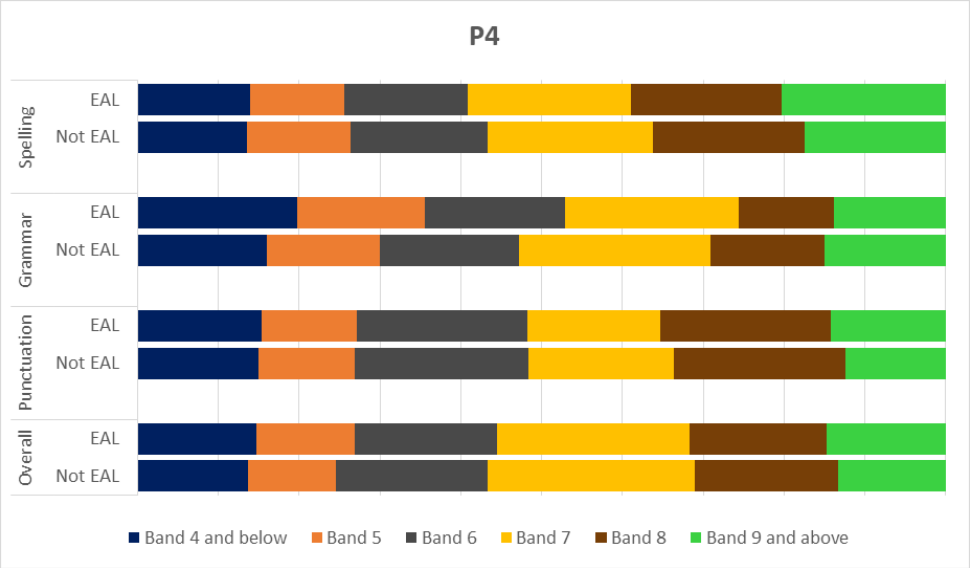


Chart 24b: Writing outcomes distributed by EAL for P7

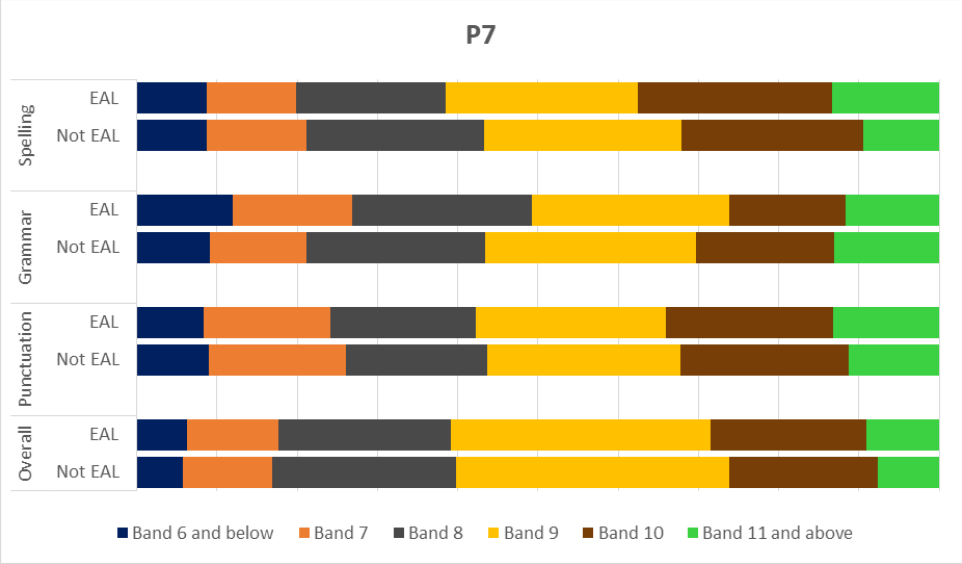
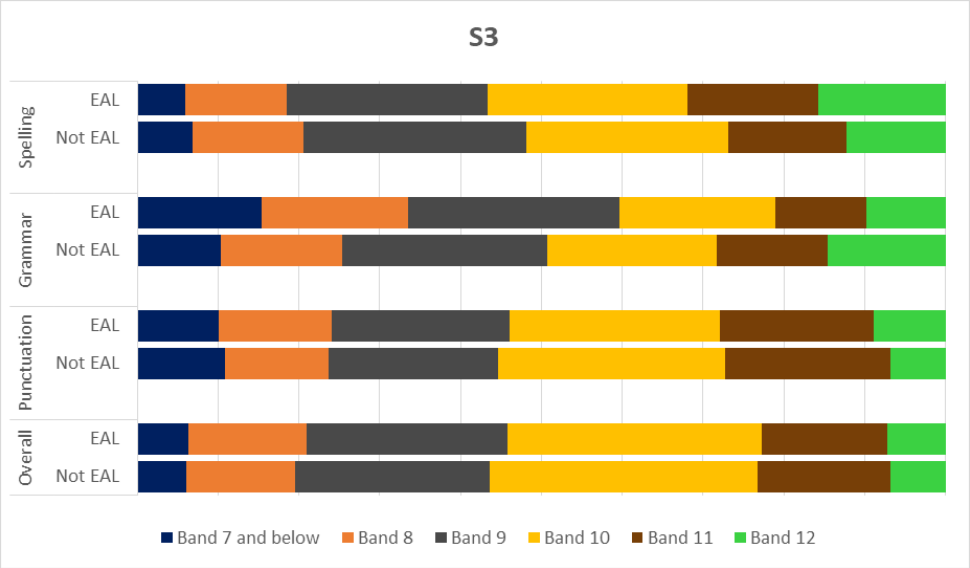


Chart 24c: Writing outcomes distributed by EAL for S3



5 Appendices

5.1 Appendix 1: Assessments completed during the 2018 to 2019 academic year

The 2018 to 2019 academic year was the second year of implementation for SNSA. In total, 577,385 assessments were completed across Scotland over the course of the year – about 93.4% of the possible maximum total assessments available for children and young people in P1, P4, P7 and S3[7]. Table 2 shows this total, split by assessment.

Table 2: SNSA 2018 to 2019 completion rates by assessment

Assessment	Assessments completed	Number of learners enrolled	Percentage completed
Primary 1 Numeracy 2018–19	50,957	55,717	91%
Primary 1 Literacy 2018–19	50,425	55,717	91%
Primary 4 Numeracy 2018–19	55,725	58,043	96%
Primary 4 Reading 2018–19	55,888	58,043	96%
Primary 4 Writing 2018-19	55,571	58,043	96%
Primary 7 Numeracy 2018–19	55,451	57,665	96%
Primary 7 Reading 2018–19	55,679	57,665	97%
Primary 7 Writing 2018–19	55,341	57,665	96%
Secondary 3 Numeracy 2018–19	47,659	53,259	89%
Secondary 3 Reading 2018–19	47,839	53,259	90%
Secondary 3 Writing 2018–19	46,850	53,259	88%
Total	**577,385**	**618,335**	**93.4%**

[7] Note that this figure and those quoted in the table below include out-of-stage assessments.

5.2 Appendix 2: Composition of SNSA assessment instruments

The tables in this appendix provide details of the allocation of items to each organiser within the assessments for the 2018 to 2019 academic year. Additionally, Table 3 shows the number of items presented to each learner, in relation to the total number of items available within the adaptive model for the assessment.

In each assessment, in each stage, all of the available organisers were represented. However, there were different proportions across the stages. In the school-level reports, teachers received information about the relationship between the learner's overall outcome and their outcome at organiser level. This was provided at the individual learner level for each organiser that was addressed by at least five questions in the learner's adaptive assessment. Where there were fewer than five items allocated to an organiser within a learner's assessment, outcomes are not reported in this national report, since outcomes are not considered sufficiently reliable to be used in reporting overall national performance on the organiser.

Table 3: SNSA 2018 to 2019 number of items per learner and assessment

Stage	Learning Area	Total scored items per learner assessment	Total number of scored items in assessment
P1	Numeracy	30	70
P1	Literacy	30	69
P4	Numeracy	30	70
P4	Reading	30	69
P4	Writing	30	70
P7	Numeracy	33	77
P7	Reading	33	69
P7	Writing	33	77
S3	Numeracy	36	84
S3	Reading	35/33*	77
S3	Writing	36	84

*The number of questions varied according to the pathway that the young person completed.

Table 4: SNSA 2018 to 2019 number of numeracy items by organiser

Organiser	**P1**	**P4**	**P7**	**S3**
Number	28	24	27	26
Fractions, decimal fractions and percentages	8	12	13	16
Measurement, time and money	27	22	25	24
Information handling	7	12	12	18
Total	**70**	**70**	**77**	**84**

Table 5: SNSA 2018 to 2019 number of reading items by organiser (including P1 literacy)

Organiser	**P1**	**P4**	**P7**	**S3**
Tools for reading	37	7	6	3
Finding and using information	4	40	25	23
Understanding, analysing and evaluating	28	22	38	51
Total	**69**	**69**	**69**	**77**

Table 6: SNSA 2018 to 2019 number of writing items by organiser

Organiser	**P4**	**P7**	**S3**
Spelling	29	31	33
Grammar	20	23	25
Punctuation	21	23	26
Total	**70**	**77**	**84**

5.3 Appendix 3: Additional example items

5.3.1 Example numeracy items

Number

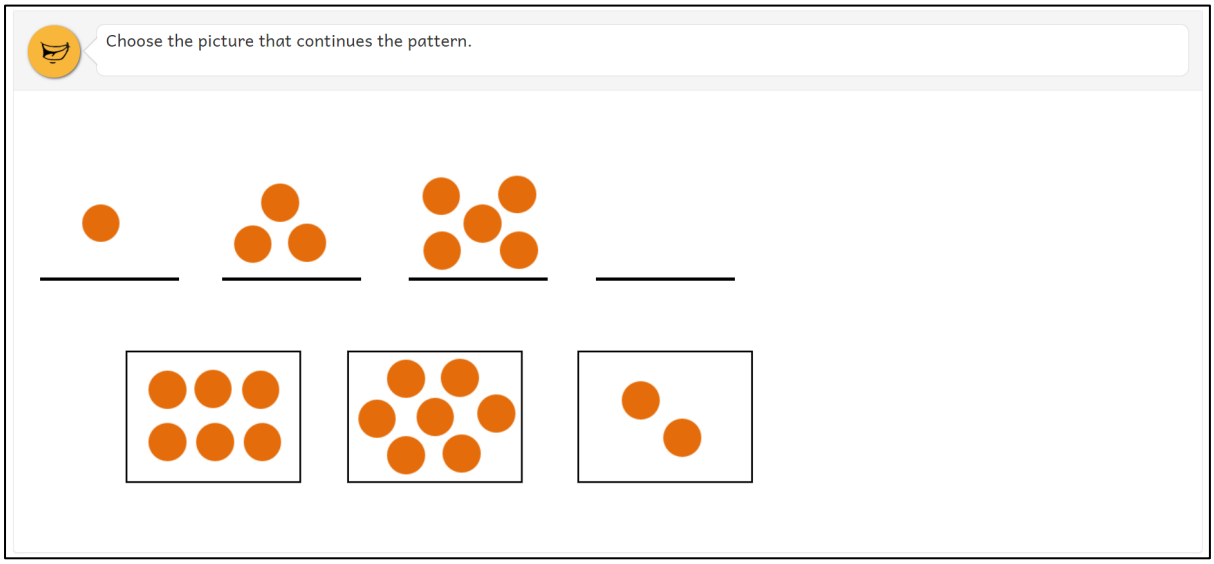


Figure A1: Example of a P1 Number question: assessing ability to continue a counting pattern

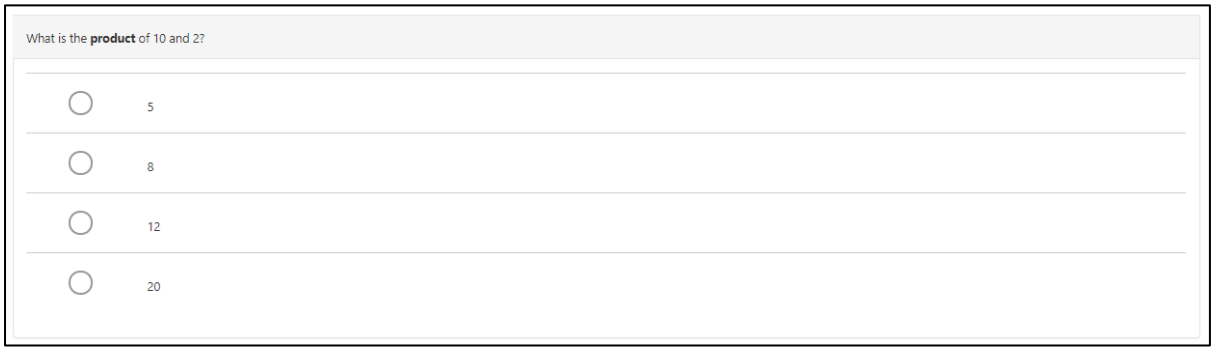


Figure A2: Example of a P4 Number question: assessing ability to understand terminology associated with multiplication to complete a calculation

Fractions, decimal fractions and percentages

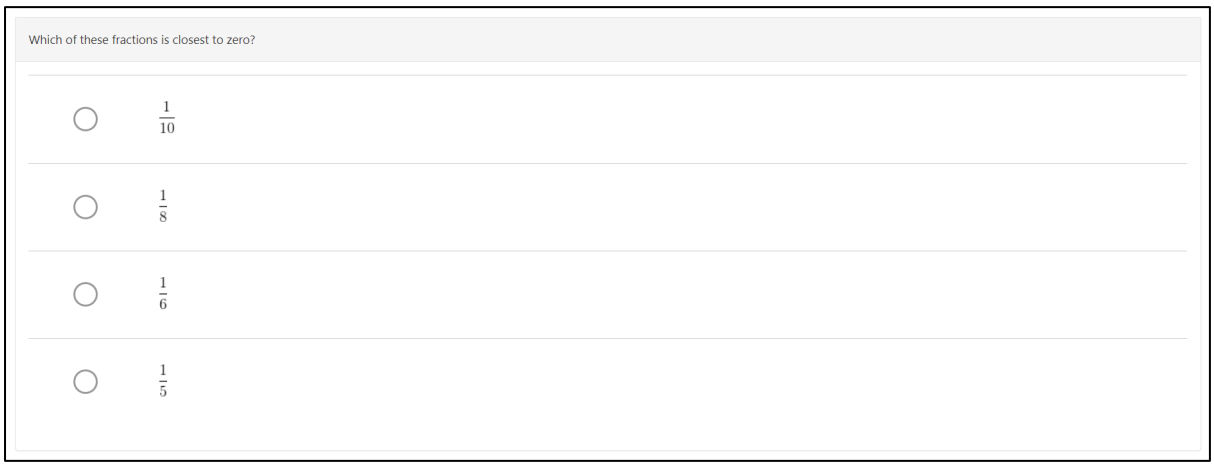


Figure A3: Example of a P4 Fractions, decimal fractions and percentages question: assessing ability to compare and order fractions by size

Figure A4: Example of P7 Fractions, decimal fractions and percentages question: assessing ability to find a fraction of a quantity

Measurement, time and money

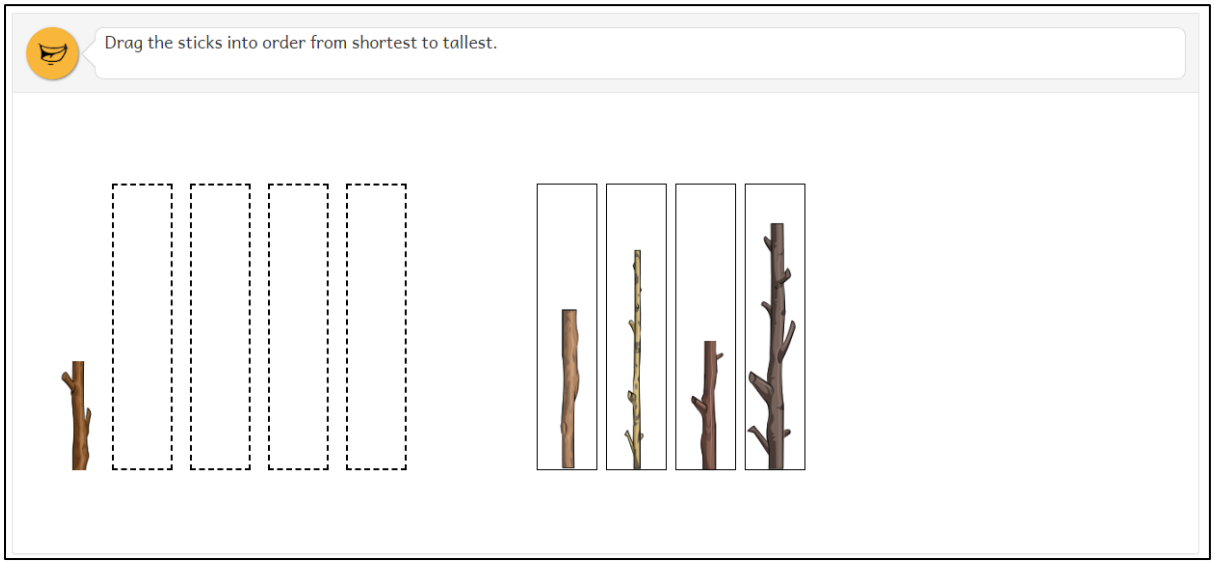


Figure A5: Example of a P1 Measurement, time and money question: assessing ability to order objects by height

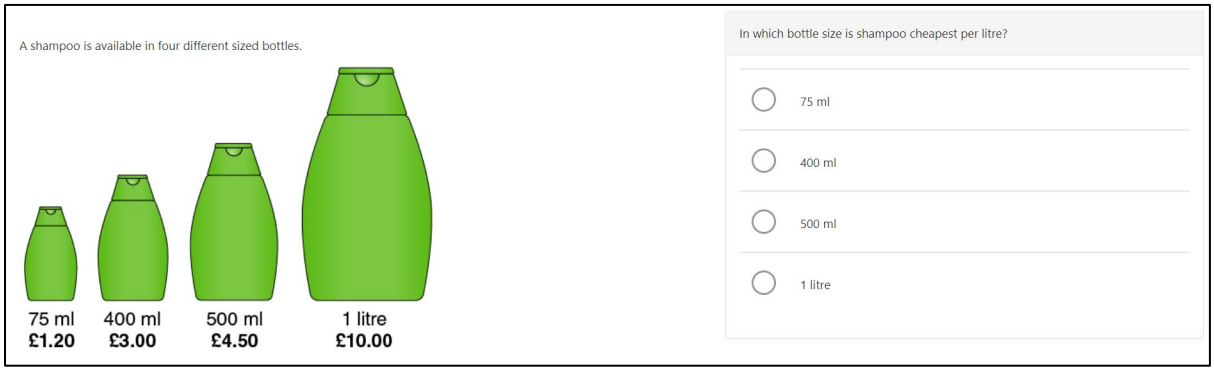


Figure A6: Example of a P7 Measurement, time and money question: assessing ability to compare items to determine best value for money

Information handling

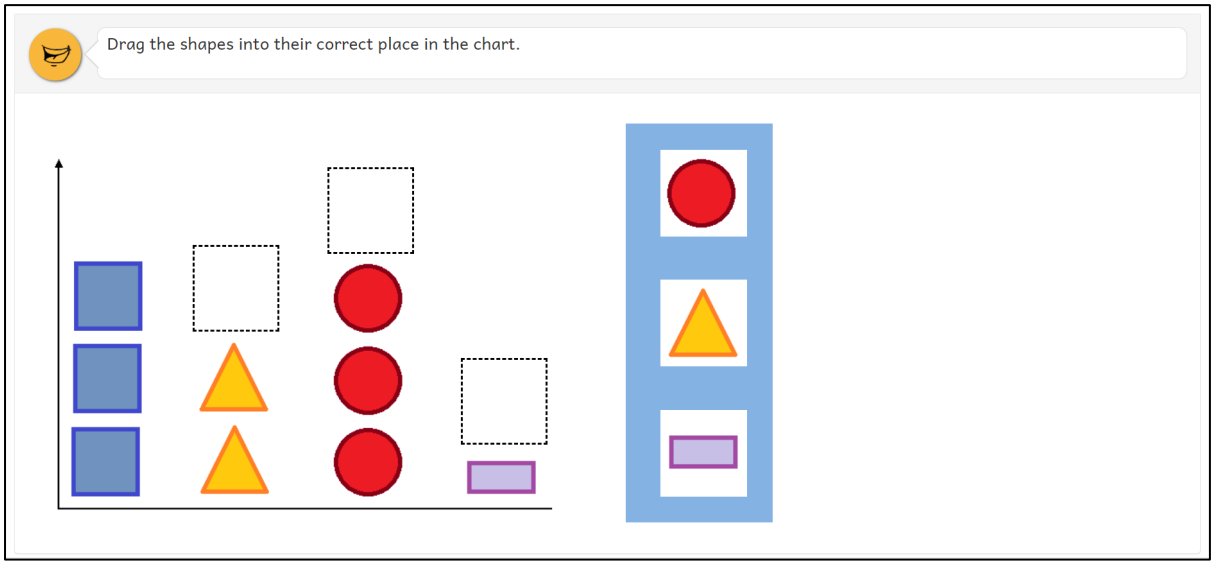


Figure A7: Example of a P1 Information handling question: assessing ability to use a chart to sort objects by a given criterion (shape)

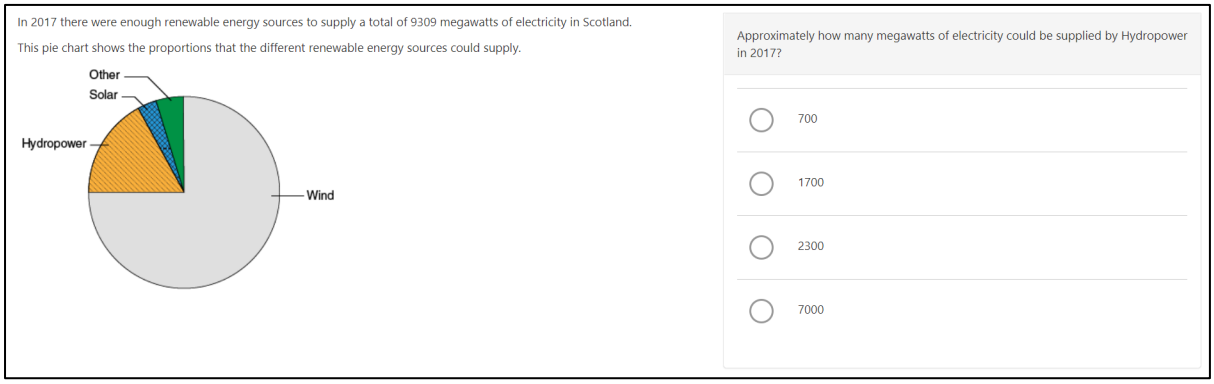


Figure A8: Example of an S3 Information handling question: assessing ability to interpret a pie chart

5.3.2 Example reading items

Tools for reading

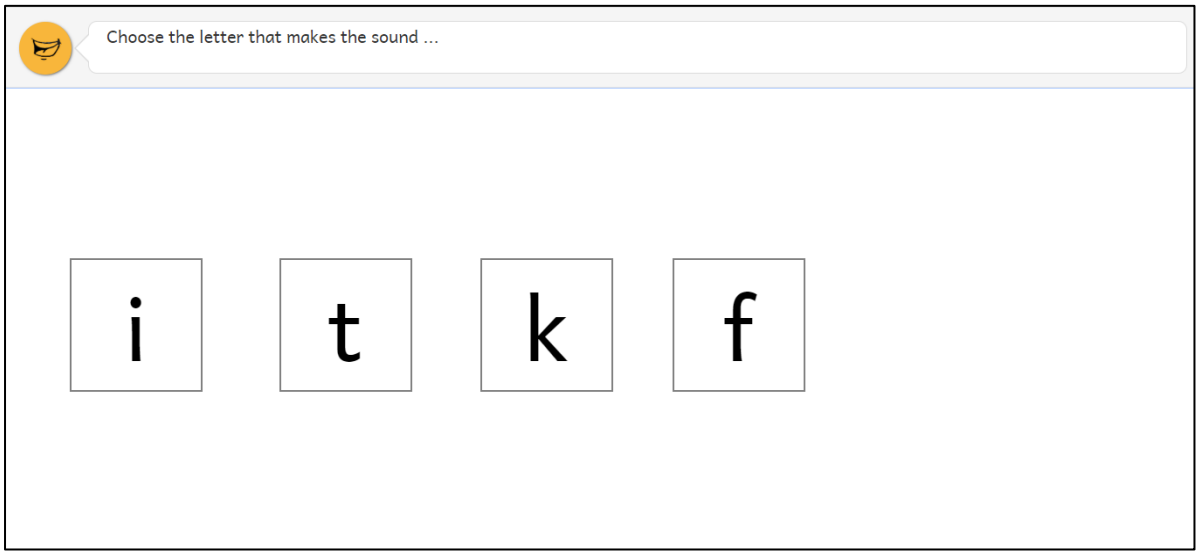


Figure A9: Example of a P1 Tools for reading question: ‘Select letter sound t’

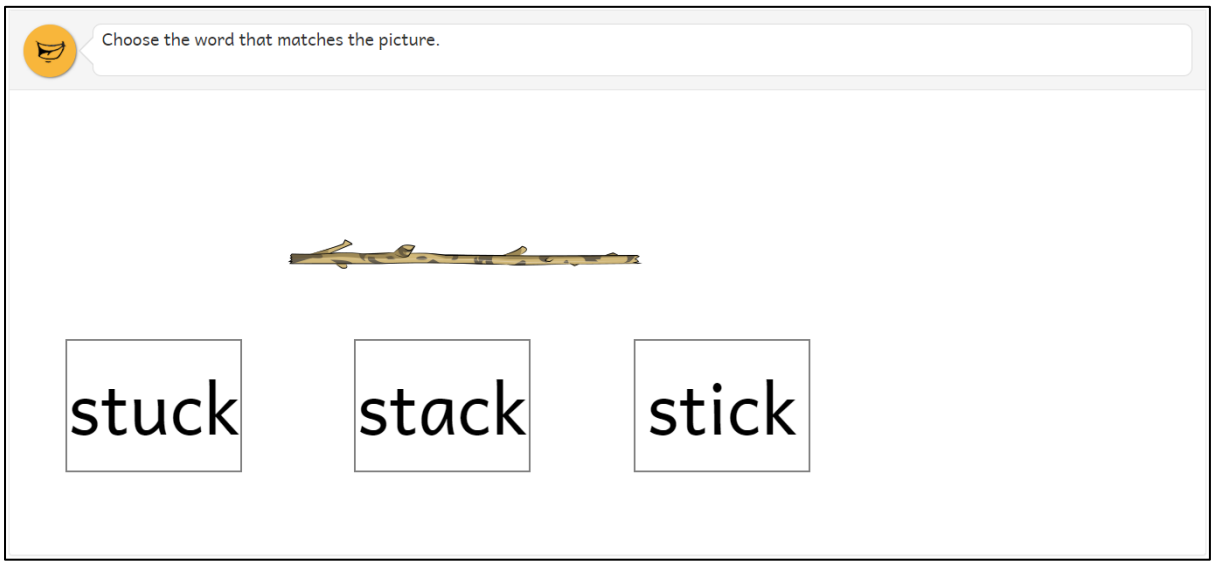


Figure A10: Example of a P1 Tools for reading question: ‘Match word to picture (stick)’

Finding and using information

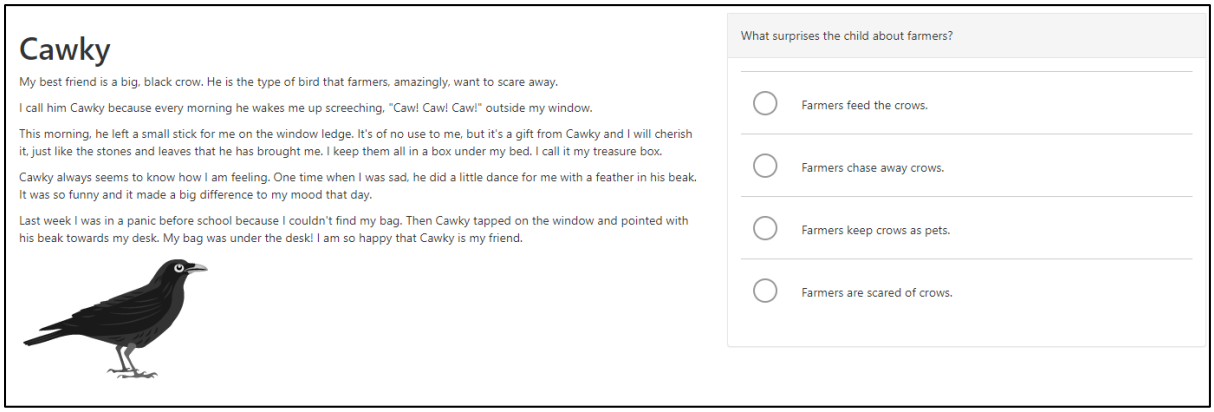


Figure A11: Example of a P4 reading text with a Finding and using information question: ‘Cawky Question 2’

Understanding, analysing and evaluating

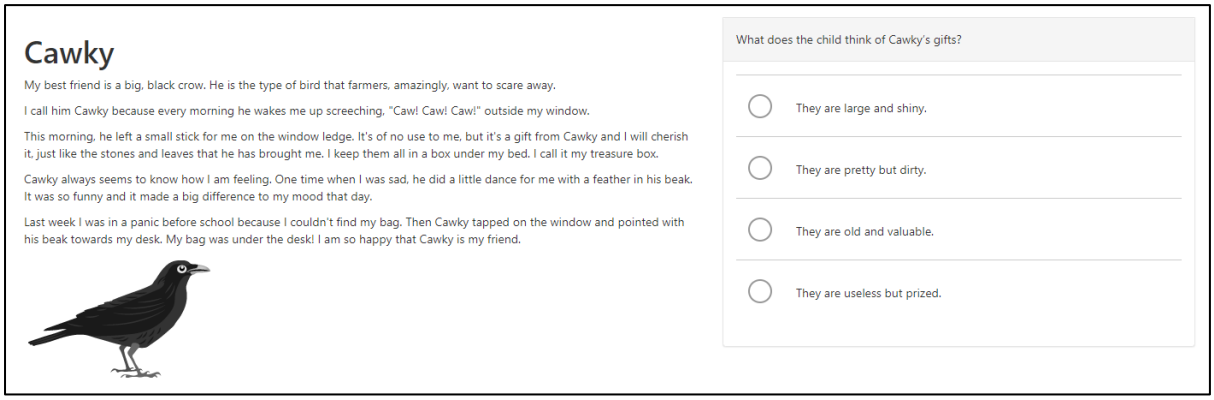


Figure A12: Example of a P4 reading text with an Understanding, analysing and evaluating question: 'Cawky Question 3'

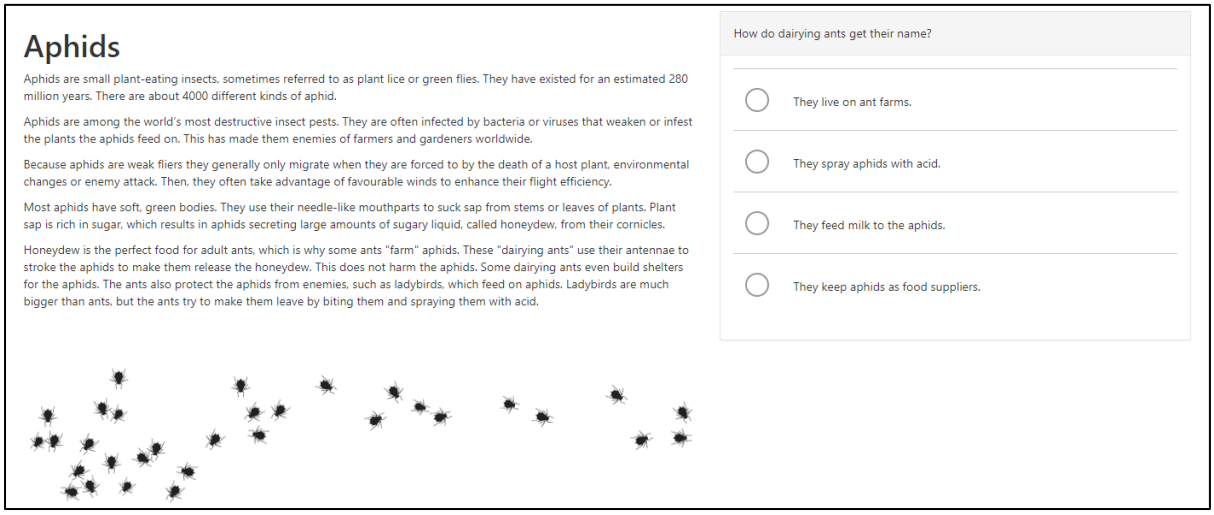


Figure A13: Example of a P7 Understanding, analysing and evaluating question: 'Aphids Question 2'

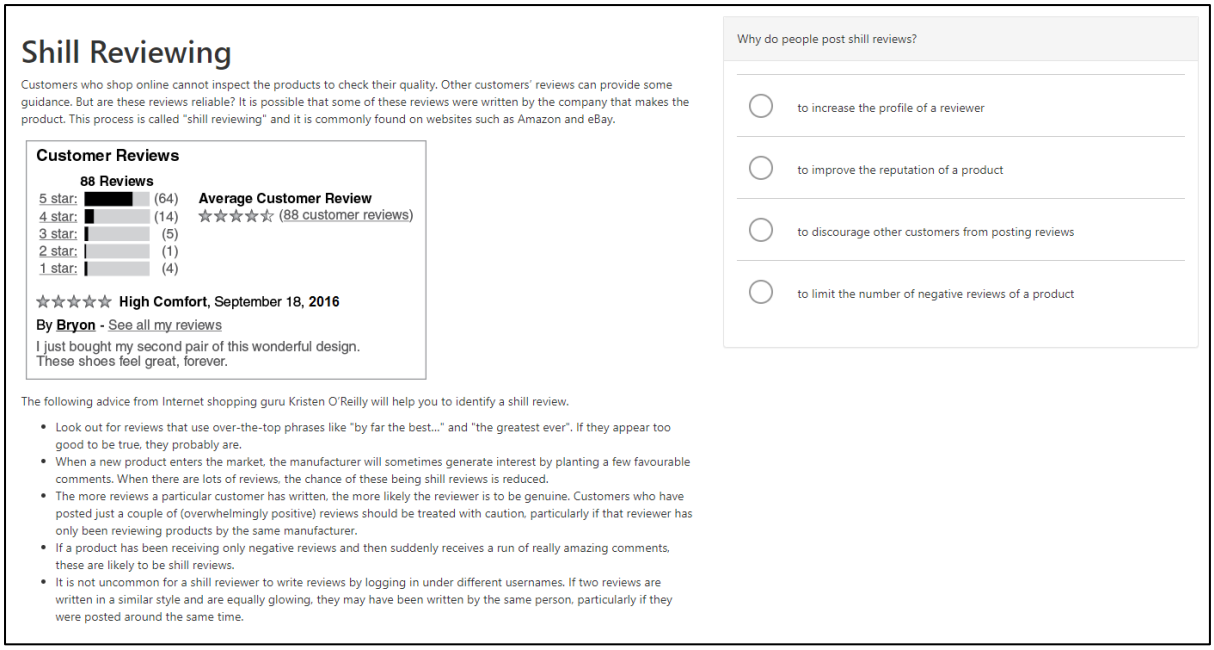


Figure A14: Example of an S3 Understanding, analysing and evaluating question: 'Shill Reviewing Question 3'

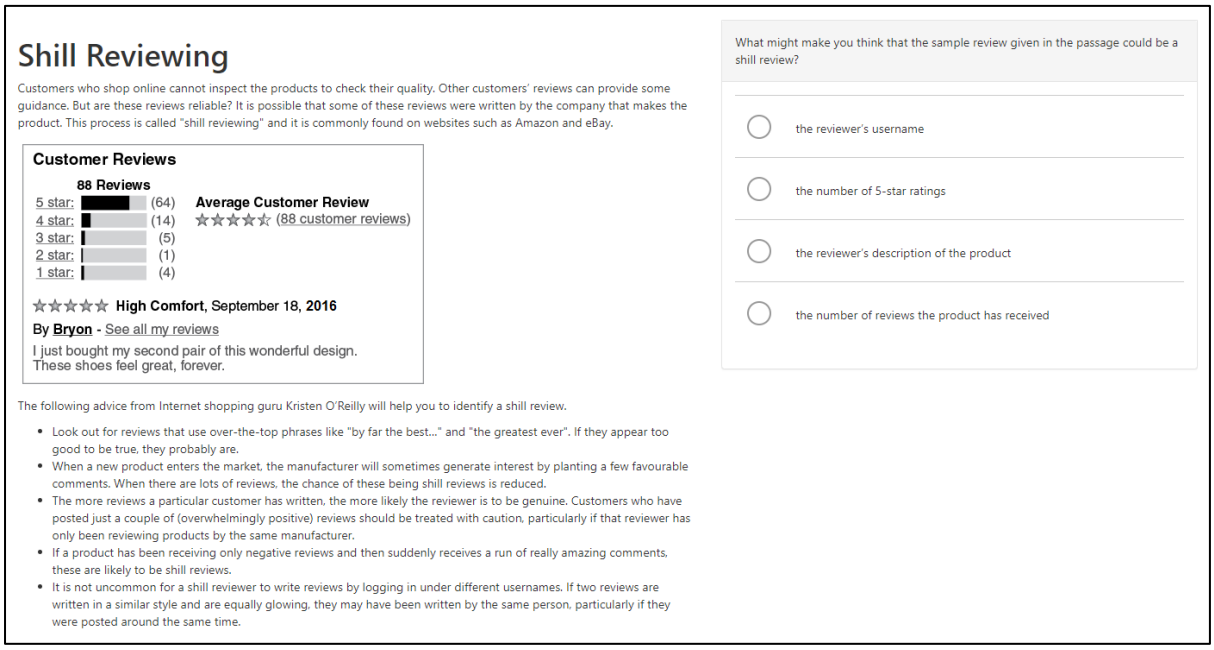


Figure A15: Example of an S3 Understanding, analysing and evaluating question: 'Shill Reviewing Question 5'

5.3.3 Example writing items

Spelling

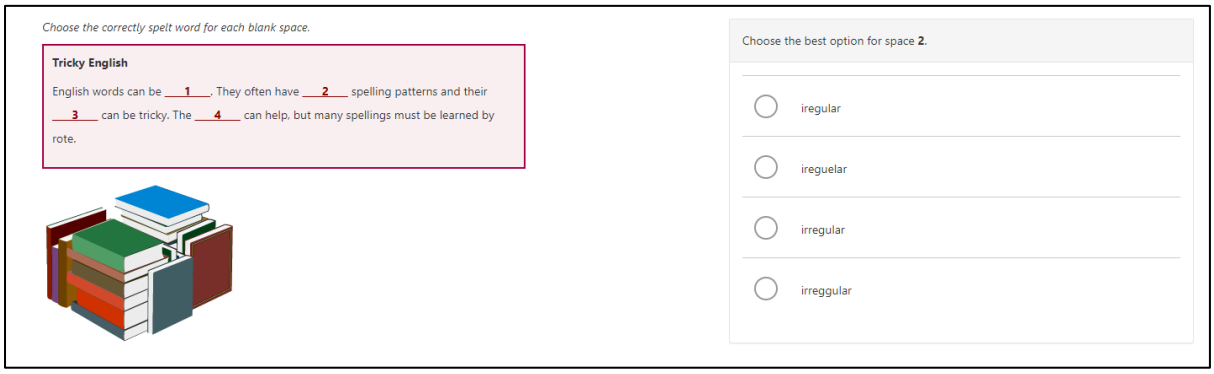


Figure A16: Example of an S3 writing unit with a Spelling question: assessing the ability to identify the correct spelling of a word with a doubled consonant

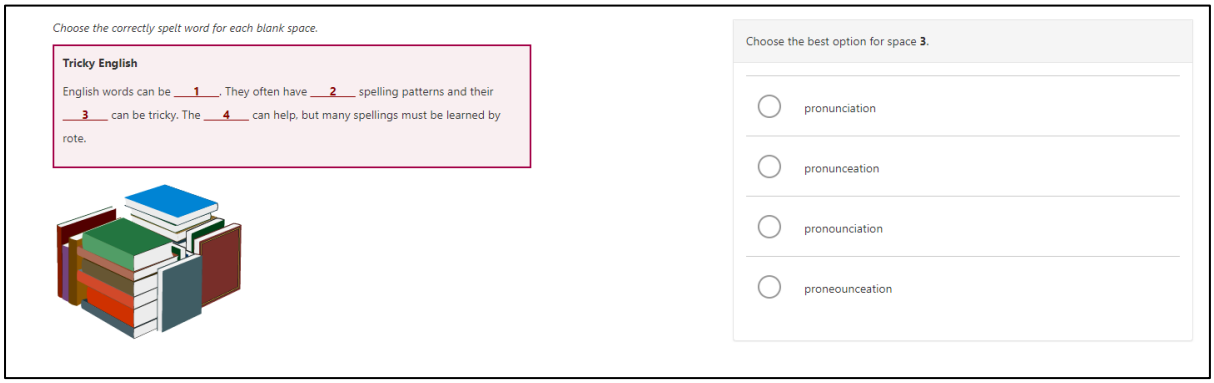


Figure A17: Example of an S3 writing unit with a Spelling question: assessing the ability to identify the correct spelling of a less common word with five syllables

Grammar

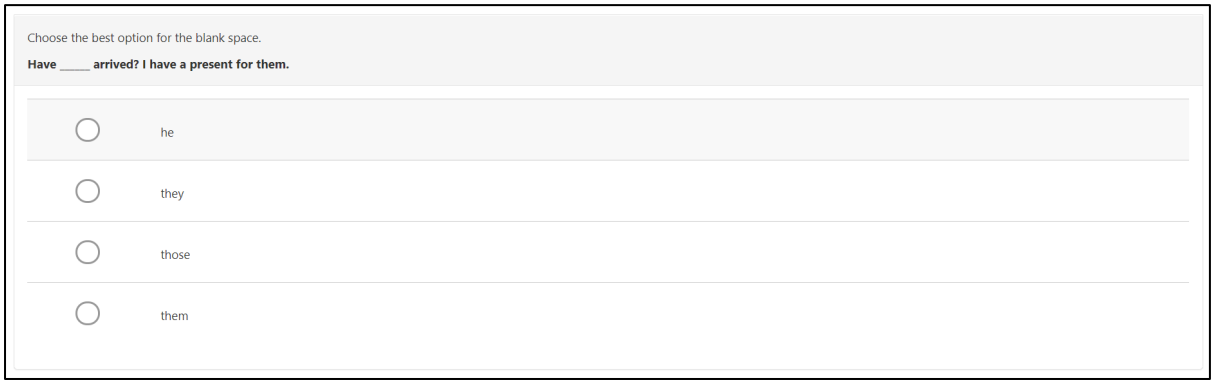


Figure A18: Example of a P4 Grammar question: assessing the ability to identify a correct pronoun

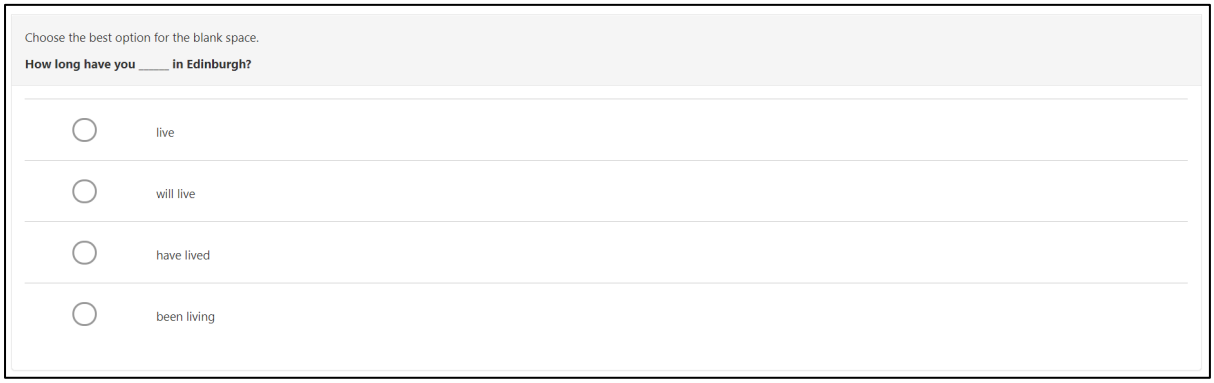


Figure A19: Example of a P4 Grammar question, assessing: identify a correct verb form

Punctuation

Figure A20: Example of a P7 Punctuation question: assessing the ability to identify the correct position of a colon in a sentence

5.4 Appendix 4: Quality assurance

In preparation for the presentation of the assessments in the 2018 to 2019 academic year, a number of quality assurance activities took place in relation to the replenishment questions developed for inclusion within the assessments. The assessments and resulting data on learner outcomes, which is summarised within this report, are underpinned by thorough quality assurance processes that were completed prior to the 2018 to 2019 academic year. These processes are summarised below.

5.4.1 Scottish Government reviews

ACER used the outcomes of discussions that took place with Scottish Government, including Education Scotland and the Learning Directorate, at the start of the SNSA project to inform the number and nature of the replenishment items to be developed for potential inclusion in the 2018 to 2019 assessments.

Table 7 shows the main activities undertaken in the development, review and customisation of items for the live assessments, and development and review of replenishment items for trialling in the 2018 to 2019 academic year.

Table 7: Development and review of SNSA item pool, October 2016 to August 2018

Date	Activity
October 2016 to January 2017	Item writing and internal review within ACER
January to March 2017 & September 2017	SG/ES item review of new items for 2018 to 2019 instruments, including inspection of items' alignment with CfE and Scottish culture and language; subsequent revision and customisation by ACER
November 2017 to March 2018	In-test trialling of new items within the 2017 to 2018 assessments
April to May 2018	Analysis of performance of in-test trial items
May 2018	ES review and sign off of item pool from which the 2018 to 2019 assessments were selected
May to June 2018	Selection of items / construction of clusters / branching rules for 2018 to 2019 adaptive instruments by ACER
May to July 2018	ACER build and quality assurance of the assessments
July 2018	ES/SG review and sign off of 2018 to 2019 assessments

5.5 Appendix 5: Band descriptions from the 2018 to 2019 Individual reports

For the second year of SNSA (2018 to 2019), performance in each curricular area was reported on a single long scale, which is split into 12 capacity bands. The exception to this is writing for which there are only nine bands, since P1 literacy is included on the reading scale. Six of the capacity bands are included in the reports for each stage, with the reported bands being chosen to best reflect the capacity range demonstrated by each stage. P1 covers bands 1 to 6; P4 covers bands 4 to 9, P7 covers bands 6 to 11 and S3 covers bands 7 to 12.

The change from the high, medium and low reported for each group in 2017 to 2018 allows for a more granular approach in the classification of learner outcomes and also enables schools to measure progress for each learner over time.

Each capacity band for the 11 Scottish National Standardised Assessments for the 2018 to 2019 academic year had an accompanying ‘region description’. These descriptions were based on a summary of the skills, knowledge and understanding assessed in the questions included in the 2017 to 2018 assessments or trialled in the 2017 to 2018 academic year, which, in turn, were aligned with CfE Benchmarks. The region descriptions for each stage are shown in Tables 8 to 18 below.

5.5.1 Numeracy band descriptions

Table 8: Band descriptions for P1 numeracy

Band 6
Learners in this band can typically solve missing number problems where the total is less than 20 and identify missing numbers when counting in 2s or 5s. They can use place value to order 2-digit numbers and match times on digital and analogue clocks (o'clock and half past). They can interpret bar graphs to find the total of all categories.
Band 5
Learners in this band can typically order groups of different numbers of objects and recognise doubles facts to a total of 20. They can identify a missing number in a backwards counting sequence and identify half of a group of objects in an array or a random arrangement. They can apply number skills to calculate an exact amount of money.
Band 4
Learners in this band are typically able to solve word problems involving addition of two single digit numbers, and identify a number sentence which represents a picture. They can find half of a group of objects when sharing. They can interpret everyday positional language and visually compare lengths and capacities. They can interpret column graphs to find the value for a given category.
Band 3
Learners in this band can typically connect a numeral to a quantity below 20 and use ordinal numbers in real life contexts. They can share a group of items equally into smaller groups, sort objects by length and identify a triangle or rectangle from a set of shapes. Learners can read values from simple pictographs.
Band 2
Learners in this band are typically able to connect number names, their quantities and the numerals up to 10. They can understand 'zero' means none of something and identify which group contains most objects. Learners are typically able compare lengths to identify shortest and interpret a simple map to identify the longest distance travelled on a curved path.
Band 1
Learners in this band can typically use one to one correspondence to count up to 10. Learners can compare heights or lengths of objects to identify the tallest or longest of a given group and can identify an empty container. They can sort objects using a given criterion.

Table 9: Band descriptions for P4 numeracy

Band 9
Learners in this band are typically able to identify the correct operation to solve a simple scenario and solve simple word problems to find a fraction of a single digit number. They can identify the area of a shaded shape on a grid and read a volume from a scale. They can interpret pictographs where symbols represent more than one.
Band 8
Learners in this band can typically solve problems that involve linking repeated addition with multiplication and partitioning and identify a number of items as a fraction of a group of items. They can read times to the minute using an analogue clock and compare the areas of rectangles on a grid. They can calculate missing entries in tables and bar graphs.
Band 7
Learners in this band can typically choose the correct operations to solve a simple problem, including multiplication or division with simple numbers. They can identify one item as a fraction of a group of items. They can work out the difference (in hours) between two analogue clock times and interpret a column graph to identify and compare frequencies of given categories.
Band 6
Learners in this band can typically solve simple multi-step word problems requiring addition or subtraction of 2-digit numbers, and apply understanding of place value to partition numbers. They can tell time to the quarter hour using analogue clocks and identify the most appropriate unit of measurement for a familiar context. Learners can compare sizes of segments in a pie chart.
Band 5
Learners in this band understand place value in 3-digit numbers, e.g. they can express a 3-digit number in expanded form, and can solve multi-step word problems involving single-digit numbers. They can read the time to the half hour on analogue and digital clocks and are able to read information from tables.
Band 4
Learners in this band are typically able to continue number sequences, e.g. count in 5s, and add numbers to reach a single digit total. They can identify half of a group or object. They are able to read information from charts and graphs, such as identifying the most popular category from a column graph.

Table 10: Band descriptions for P7 numeracy

Band 11
Learners in this band can typically interpret problems and apply the correct operations to complete calculations involving estimation and also multiply 2-digit numbers. They can solve problems involving a fraction of a fraction and can calculate a percentage of a given value. They can solve problems involving the areas of rectangles and convert units of mass.
Band 10
Learners in this band can typically solve word problems involving proportional reasoning to find fractions of a group and can also add fractions and decimal fractions. They can calculate durations and convert between units, e.g. for length or volume, and read scales for values between labelled marks. They can interpret pie charts and determine the probability of outcomes on a simple spinner.
Band 9
Learners in this band can typically apply all four operations to solve problems involving whole numbers up to 1 000 000 and with money. They can order fractions and decimal fractions. They can convert time in fractions of an hour to minutes, use coins to show change from £20 or £30. They can interpret Venn diagrams with three overlapping sets of data.
Band 8
Learners in this band are typically able to solve a multi-step word problem, use place value in numbers with up to 6 digits and identify and order 3-digit numbers represented in words. They can calculate durations across hours, minutes and seconds within a day and identify the group that makes up a population for a particular kind of survey.
Band 7
Learners in this band are typically able to solve single-step word problems involving any of the four operations and understand that negative integers are less than zero. They can convert between 24- and 12-hour time and interpret a timetable. Learners can typically read a simple line graph and choose the tally chart that matches a given column graph.
Band 6
Learners in this band can typically solve simple multi-step word problems requiring addition or subtraction of 2-digit numbers, and can recognise the hundreds digit in a 3-digit number. They can tell time to the quarter hour using analogue clocks. Learners can compare sizes of segments in a pie chart and interpret tally charts.

Table 11: Band descriptions for S3 numeracy

Band 12
Learners in this band are typically able to apply the correct operations to complete calculations involving 3-digit numbers, fractions and ratios. They are typically able to solve speed-distance-time problems involving conversion of units of time and length. Learners can also interpret two-way tables and Venn diagrams to find the probabilities of events and complementary events.
Band 11
Learners in this band can typically interpret problems and apply the correct operations to complete calculations. They can interpret rates and proportions to solve problems and can find areas and perimeters of shapes using limited given information. Learners can interpret two way tables, segmented column graphs and line graphs and calculate probabilities of complementary events and express these as decimal fractions.
Band 10
Learners in this band are typically able to perform calculations involving negative numbers and the subtraction and multiplication of decimal fractions. They can solve word problems involving proportion. Learners are able to solve problems involving duration, conversion of units of time and the unitary method. They can interpret pie charts and two-column graphs to find unknown values.
Band 9
Learners in this band can typically round whole numbers and decimal fractions to given accuracy levels and compare and order fractions with different denominators. They can calculate volumes of cuboids and compare masses to 3-decimal places. They can typically match pie charts and tables showing the same information, and can calculate the expected value given the percentage probability of an event.
Band 8
Learners in this band are typically able to identify an appropriate number sentence to represent a problem. They can calculate durations across hours, minutes and seconds, and calculate the probability of an event, expressing it as a decimal fraction. They can also identify the most appropriate sample selection for a given survey question.
Band 7
Learners in this band are typically able to solve single-step word problems involving any of the four operations. They can convert between 24- and 12-hour time. They can also interpret a pictograph that uses symbols and part symbols to represent multiple units. They can interpret statements describing probabilities and match these to probabilities expressed as percentages.

5.5.2 Reading band descriptions (including P1 literacy)

Table 12: Band descriptions for P1 literacy

Band 6
Learners in this band are typically able to read independently to link simple details within a short information text. They can make straightforward inferences and interpret directly stated information. These learners can keep track of characters and the sequencing of actions in short narrative texts, and can track pronoun references across sentences without audio support.
Band 5
Learners in this band are typically able to retrieve directly stated prominent information in short narrative texts. They can link across these texts to identify the reason for a character's actions when there are several explicit clues. They can match a word to a picture without audio support when the images have similar sounds. These learners can track simple pronoun references in short sentences.
Band 4
Learners in this band are typically able to identify common synonyms for high frequency words with audio support. They can identify common digraphs at the start or end of a word, and can identify rhyming words in an audio-based short poem. They can also retrieve prominent information from audio-based texts.
Band 3
Learners in this band are typically able to understand that a word is made up of letters with different sounds. They can replace a letter in a 3-letter, phonetically regular word to create a new word. These learners can match a lower-case letter to its upper-case form, and are beginning to match simple, familiar words to pictures.
Band 2
Learners in this band are typically able to distinguish letters from numbers and symbols. They are able to match up a range of letters with their sounds and identify the first or last sounds in words.
Band 1
Learners in this band are typically able to match a highly familiar letter (such as the letter s) to its sound. They are also able to distinguish a word from a picture.

Table 13: Band descriptions for P4 reading

Band 9
Learners in this band are typically able to read a wide range of straightforward texts with a comprehensive understanding. They can link unfamiliar ideas and can locate embedded details when there is competing information. When reading narrative texts, they can interpret clues dotted across the text to make inferences about characters' feelings, attitudes and motivations.
Band 8
Learners in this band are typically able to locate key pieces of information, and link ideas within and across sentences and paragraphs. They can identify the main idea and purpose of different types of text. These learners are able to understand instructions in procedural texts, and can locate and interpret information presented in tabular form.
Band 7
Learners in this band are typically able to read a range of short familiar texts, understanding the main ideas. They can interpret the meaning of unfamiliar words, and can recognise paraphrases and synonyms to support their understanding. These learners can locate directly stated information across a range of genres where the text is simple.
Band 6
Learners in this band are typically able to locate details that are explicitly stated in a range of straightforward texts, and infer key ideas that are prominent. They can use obvious contextual support to interpret the meaning of less familiar words and phrases. These learners can link pictures to information in simple texts, and identify the purpose of an instructional text.
Band 5
Learners in this band are typically able to read a range of short, familiar texts with limited, mainly literal, understanding. They can locate prominent, directly stated information in simple texts when there is little competing information. They make straightforward generalisations about characters in narrative texts when there are several explicit clues.
Band 4
Learners in this band are typically able to locate directly stated information in very short, simple texts where the information is explicit and presented in a very clear way. These texts will often be separated into sections with prominent headings and supported with pictures.

Table 14: Band descriptions for P7 reading

Band 11
Learners in this band are typically able to read closely to interpret unfamiliar content and metaphors in nuanced narrative texts. They are able to link complex ideas across paragraphs to form understandings and interpret conclusions. They can locate multiple pieces of information in dense descriptions and complex sentences when there is strongly competing information.
Band 10
Learners in this band are typically able to make inferences about the narrator's viewpoint and a character's changeable or complex feelings in a narrative text. They can locate details embedded in complex sentences when there is competing information. They can interpret arguments of some complexity, and recognise the main points and justifications for ideas in persuasive texts.
Band 9
Learners in this band are typically able to read a wide range of texts with a good understanding where the meaning is relatively straightforward. When reading narrative texts, they can interpret clues to make inferences about characters' feelings, attitudes and motivations. These learners are able to identify the implied opinion of a writer of a persuasive text.
Band 8
Learners in this band are typically able to locate key pieces of information, and link ideas within and across paragraphs of text. They can summarise the writer's view in persuasive texts and can interpret the main ideas from and the purposes of procedural and persuasive texts. These learners can interpret a diagram to locate directly stated details.
Band 7
Learners in this band are typically able to read a range of familiar texts, understanding the main ideas. They can locate directly stated information in narrative, information, persuasive and instructional texts. When reading narrative texts they can make straightforward inferences about characters' motivations. They are able to track pronoun references and make links across texts when the connections are clear.
Band 6
Learners in this band are typically able to locate directly stated details in a range of straightforward texts. They can use obvious contextual clues to interpret the meaning of less familiar words and phrases. They are able to interpret simple information that is in a prominent position within the text.

Table 15: Band descriptions for S3 reading

Band 12
Learners in this band are typically able to read a wide range of texts with a high level of understanding of several, substantial complexities. They can analyse tone, style and writer's purpose in complex persuasive texts. These learners can identify the main idea of a complex argument, interpret opposing points of view, and make justifiable deductions while navigating complex vocabulary.
Band 11
Learners in this band are typically able to read closely to locate and interpret details about unfamiliar content when there is highly plausible competing information. From narrative texts they make inferences about a character's behaviour and attitude when there are challenging elements such as contradictory emotions. They are able to link complex ideas across many paragraphs of a text.
Band 10
Learners in this band are typically able to combine evidence from different parts of a text to identify main ideas, understand counter-intuitive information and interpret complex language. They can locate details embedded in complex sentences when there is much competing information. These learners can evaluate the credibility of statements in texts, and interpret persuasive techniques and the writer's point of view.
Band 9
Learners in this band are typically able to read a wide range of texts with reasonable understanding of a complex element. They are able to interpret tone, mood, and authorial intent of narratives, making inferences about a character's emotions. They are able to read closely to identify key ideas in texts and can locate and interpret detailed information presented in a table.
Band 8
Learners in this band are typically able to read a wide range of straightforward texts with comprehensive understanding. From narrative texts they can make fine inferences about a main character's emotions. They can locate and sort key ideas and details across information tables to make connections. They are able to interpret language, e.g. idioms, and can recognise paraphrased details in information texts.
Band 7
Learners in this band are typically able to recognise a character's motivation in a nuanced narrative text. They can locate and combine multiple pieces of information in simple tables in an information text. They can use context to identify the meaning of unfamiliar words. They are also able to identify the likely audience for a text.

5.5.3 Writing band descriptions

Table 16: Band descriptions for P4 writing

Band 9
Learners in this band are typically able to spell common words where there is a medial silent letter or a letter sound that is pronounced differently to the spelling. They can use the correct verb forms, and can appropriately select articles for common nouns in sentences with simple structures. They can identify a missing possessive apostrophe in a complex sentence.
Band 8
Learners in this band are typically able to spell common words where letters can be confused, and can spell simple words with common digraphs (ch, ck, gh, th). They can select the appropriate preposition to complete a complex phrase, and can identify a common conjunction to link simple clauses. They identify the need for capital letters for proper nouns but not common nouns.
Band 7
Learners in this band are typically able to spell common words of up to three syllables with a range of consonant blends, and some words with phonemically irregular endings. They recognise the correct verb forms to use in simple sentences, and can use determiners and adverbs in short, simple sentences. They identify the need for apostrophes in contractions.
Band 6
Learners in this band are typically able to spell common words of one or two syllables beginning and ending in two-consonant blends (ch, nk), and simple words with phonemically regular endings. They can identify the correct verb form to use in present simple, present continuous and past tense sentences. They can correctly use question marks and exclamation marks in simple sentences.
Band 5
Learners in this band are typically able to spell short, familiar words with a few common digraphs (th, wh, gh). They can identify the correct prepositions and pronouns to use in simple sentences, and can recognise where an adjective is needed in a short sentence. They can identify that a simple sentence requires a full stop.
Band 4
Learners in this band are typically able to spell simple, familiar words of up to four letters with regular phonetic patterns. They can identify the correct pronoun to use in simple sentences. They are beginning to understand that words group together to form a sentence.

Table 17: Band descriptions for P7 writing

Band 11
Learners in this band are typically able to spell less common words with up to two challenging features, such as middle consonants that could be double or single, middle letters of sc, or words ending in se. They demonstrate technical accuracy in their use of indefinite pronouns and conjunctions in sentences. They can identify the correct punctuation for possessive pronouns.
Band 10
Learners in this band are typically able to spell common words with a challenging spelling feature, such as tricky vowel combinations or a silent letter. They can use a range of prepositions and verb forms in complex sentences and can apply a range of prefixes appropriately. They can recognise where parentheses or commas should be used to separate short clauses or phrases.
Band 9
Learners in this band are typically able to spell common words where a middle consonant could be double or single, or words with less familiar middle digraphs (sh, mb). They can use a range of appropriate verb forms, including the correct use of conditional forms in sentences with some structural complexity. They can identify a missing possessive apostrophe in a complex sentence.
Band 8
Learners in this band are typically able to spell common words of up to four syllables, and some less common, short words where j and g can be confused. They can identify the correct conjunction to use to link clauses in complex sentences, and identify a redundant word in a simple sentence. They identify the appropriate placement of commas in complex sentences.
Band 7
Learners in this band are typically able to spell common words of up to three syllables with a range of consonant blends, or with potentially ambiguous endings (c not ck). They recognise the correct articles and verb forms to use in simple sentences, and can link sentences using simple conjunctions. They can identify when a possessive apostrophe is needed after a name.
Band 6
Learners in this band are typically able to spell words where the o sounds like a u, and familiar words with one pair of common combined vowels (ui, ie). They can identify the correct preposition to use, and can select the basic verb form to correctly complete a sentence. They identify that a question mark is needed after a question.

Table 18: Band descriptions for S3 writing

Band 12
Learners in this band are typically able to spell relatively unfamiliar words of up to six syllables with multiple combined vowels (iai, au, ou, oi, ea, io, ua) and/or silent letters. They correctly apply a wide range of grammatical conventions, and can select the appropriate punctuation, including colons and semi-colons, for a range of complex sentences.
Band 11
Learners in this band are typically able to spell less common words with several challenging features, such as middle consonants (c, l) that could be double or single. They demonstrate accuracy in their usage of clauses and conjunctions. They can correctly use singular and plural possessive apostrophes and can select the correct punctuation to break up a sentence.
Band 10
Learners in this band are typically able to spell common words with a challenging spelling feature, such as several combined vowels or less familiar endings (ce, sque). They can identify the correct conjunction to use in complex sentences and can identify redundant words in simple sentences. They are able to identify the appropriate placement of commas to separate short clauses.
Band 9
Learners in this band are typically able to spell common words where a letter sound is pronounced differently to the spelling, and commonly spoken words where one syllable has a homonym. They use a range of verb forms, including the correct use of conditional forms in complex sentences. They can punctuate direct speech in a simple sentence and can correctly use parentheses.
Band 8
Learners in this band are typically able to spell common words of up to four syllables, and some less common, short words where there is a single middle consonant that could be double (r, l). They use a range of verb forms and correctly use prefixes and suffixes to form words. They identify the appropriate placement of commas in complex sentences.
Band 7
Learners in this band are typically able to spell words with a range of consonant blends and digraphs (ie, gh) and common endings (ate, tion). They recognise the correct adverbs, pronouns and verb forms to use in simple sentences. They understand the purpose of a comma and can identify the correct use of an apostrophe in a contraction.

5.5.4 Interpretation of band descriptions

For each assessment, the band descriptions above were provided in the first section of each learner's individual report. In the other two school-level reports – the Group Diagnostic Report and the Group Aggregate Report – the band number was included.

The overall outcome for a learner on one of the 2018 to 2019 Scottish National Standardised Assessments indicated that he or she was approximately twice as likely as not to be able to succeed on questions addressing the skills, knowledge and understanding described in the relevant band description above.

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