

Scottish Survey of Literacy and Numeracy (SSLN) 2016

Literacy

Survey Design Document

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1. Policy Framework

1.1 Survey aims and objectives

Title	SSLN 2016 - Literacy								
Timescale	May 2016								
Aim	<p>The SSLN provides information about pupil achievement, assessing numeracy and literacy in alternate years which local authorities, schools and Ministers can use for purposes of quality assurance, evaluation and improvement.</p> <p>The SSLN will be published as a National Statistic.</p> <p>The principal aim of the 2016 survey will be to provide national estimates of literacy achievement at P4, P7 and S2 with reference to the relevant Curriculum for Excellence (CfE) level for each stage, and enable comparisons to be made with SSLN 2012 and SSLN 2014 results. SSLN data will also inform improvements in learning and teaching at classroom level.</p>								
Reporting level	Reporting will be at national level, in reading, writing and listening & talking separately, with achievement breakdowns by gender and deprivation.								
Margin of error	The survey should be designed with the aim of having a maximum margin of error of +/- 2 percentage points for main national estimates.								
Stages and levels to be assessed	<p>The following CfE levels are to be assessed for the following stages:</p> <table border="1"> <thead> <tr> <th>Stage</th> <th>CfE level</th> </tr> </thead> <tbody> <tr> <td>P4</td> <td>First</td> </tr> <tr> <td>P7</td> <td>Second</td> </tr> <tr> <td>S2</td> <td>Third</td> </tr> </tbody> </table> <p>Given the nature of some of the assessments, reporting of performance beyond a level will also be possible for writing and listening and talking.</p>	Stage	CfE level	P4	First	P7	Second	S2	Third
Stage	CfE level								
P4	First								
P7	Second								
S2	Third								
Objectives	<p>The SSLN 2016 has the following primary objectives (prioritised):</p> <ol style="list-style-type: none"> 1. to monitor and report nationally on achievement in literacy at the P4, P7 and S2 stages, overall and broken down by gender and deprivation, and enable monitoring of literacy achievement over time 2. to identify areas of literacy strengths and weaknesses among pupils in Scotland to help inform policy initiatives and learning and teaching practices in the classroom 								

	<p>3. to gather information and report nationally on pupils' and teachers' experiences of learning and teaching literacy, along with their views about this experience.</p>
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1.2 Parameters

Scale	<ul style="list-style-type: none"> • All schools in Scotland, except special schools, will be invited to take part in the survey. Primary schools that have fewer than 2 pupils at both primary stages (i.e. P4 and P7) and secondary schools that have fewer than 5 pupils at S2 are not expected to participate in the survey. • The SSLN Team will work with local authorities to ensure the survey is undertaken in the most efficient way and include consideration of manageability for schools and pupils where possible without jeopardising the quality of the survey. • Booklets will be designed to be an appropriate length for pupils at each stage. • Pupils at all schools will be asked to undertake one paper reading booklet (approx. one hour), one online reading assessment (approx. 40 minutes), and an online pupil questionnaire (approx. 15 minutes). • Pupils at 50 per cent of schools will be asked to provide two pieces of written work. • Pupils at 40 per cent of schools will be asked to participate in a group discussion (approx. 15 minutes).
Equality and accessibility	<ul style="list-style-type: none"> • The survey design will ensure that the SSLN is accessible to as many people as possible, both in participation and dissemination.
Timing	<ul style="list-style-type: none"> • The survey will be conducted in schools between 3rd May 2016 and 3rd June 2016.
Conduct	<ul style="list-style-type: none"> • There are five survey components to be administered within the schools: <ol style="list-style-type: none"> 1. Reading assessments (pencil & paper and online) 2. Writing Submission 3. Group Discussion 4. Pupil Questionnaire 5. Teacher Questionnaire.
Gaelic	<ul style="list-style-type: none"> • Gaelic language pupils are treated in exactly the same way as English language pupils during the selection of the sample. No effort is made to deliberately include or exclude Gaelic language pupils. Survey components will be either created in Gaelic (assessment materials) or translated into Gaelic (questionnaires). One full set of materials per stage will be created and provided upon request and marked separately by Gaelic speaking

	<p>markers. The results from Gaelic pupils will be included within the national level results. There will be no separate reporting of Gaelic results.</p>
Overlap with other activity	<ul style="list-style-type: none"> • The survey will take account of developments with the literacy units within the National Qualifications for English. • The survey will, where relevant, complement evidence gathered through Scotland's participation in PISA (Programme for International Student Assessment).
Data handling issues	<ul style="list-style-type: none"> • Gaining consent - all parents/carers of pupils selected to participate in the SSLN will be sent a letter from the school informing them that their child has been selected and that the data will not be released in any form that would make the identification of their child possible. Parents/carers can remove their child from the survey if they wish. If they do not do so, they will have consented by default to the data release conditions described in the letter. • Data Protection Act (DPA) – to comply with the DPA, pupil assessment data and pupil and teacher questionnaire responses gathered during the survey must be treated anonymously. The Scottish Candidate Number may be used to anonymously link SSLN data with other data collections within Scottish Government (SG) Education Analytical Services (EAS). • SG Policy Decision – no data will be released that enables individual schools to be identified. • Freedom of Information (Scotland) Act - any analysis or data not protected by the DPA or additional special FOI exemptions may be requested. Individual level data collected for statistical purposes are exempt from such requests. • Decision whether to comply with data requests – the EAS SSLN Team will only comply with a specific request if it can be done within the conditions detailed above and in accordance with relevant SG release of data protocols. Consideration will also be given to costs of such requests and whether any charges should be made. • The SG strives to encourage the use of the extensive SSLN datasets for additional analysis and research by local authorities, academics or other bona fide third parties. Any such requests will be handled in line with the above restrictions.

1.3 Framework: Curriculum for Excellence (CfE)

<p>Structure</p>	<p>The CfE framework provides detailed information on the literacy experiences and outcomes from Early Years provision through to S3. The CfE experiences and outcomes are set out in lines of development which describe progress in learning. They are designed to provide a range of rich, creative and engaging learning experiences for pupils at each curriculum level and (for literacy) are grouped into three main organisers, each with a number of sub-organisers:</p> <table border="1"> <thead> <tr> <th>Listening & Talking</th> <th>Reading</th> <th>Writing</th> </tr> </thead> <tbody> <tr> <td>Enjoyment and choice</td> <td>Enjoyment and choice</td> <td>Enjoyment and choice</td> </tr> <tr> <td>Tools for listening and talking</td> <td>Tools for reading</td> <td>Tools for writing</td> </tr> <tr> <td>Finding and using information</td> <td>Finding and using information</td> <td>Organising and using information</td> </tr> <tr> <td>Understanding, analysing and evaluating</td> <td>Understanding, analysing and evaluating</td> <td>-</td> </tr> <tr> <td>Creating texts</td> <td>-</td> <td>Creating texts</td> </tr> </tbody> </table> <p>The literacy experiences and outcomes promote the development of critical and creative thinking as well as competence in reading, writing and listening & talking and the personal, interpersonal and team-working skills which are so important in life and in the world of work. The framework provides, for learners, parents and teachers, broad descriptions of the range of learning opportunities which will contribute to the development of literacy, including critical literacy.</p>	Listening & Talking	Reading	Writing	Enjoyment and choice	Enjoyment and choice	Enjoyment and choice	Tools for listening and talking	Tools for reading	Tools for writing	Finding and using information	Finding and using information	Organising and using information	Understanding, analysing and evaluating	Understanding, analysing and evaluating	-	Creating texts	-	Creating texts
Listening & Talking	Reading	Writing																	
Enjoyment and choice	Enjoyment and choice	Enjoyment and choice																	
Tools for listening and talking	Tools for reading	Tools for writing																	
Finding and using information	Finding and using information	Organising and using information																	
Understanding, analysing and evaluating	Understanding, analysing and evaluating	-																	
Creating texts	-	Creating texts																	
<p>The framework for assessment</p>	<p>‘Building the Curriculum 5: A Framework for Assessment’ provides guidance on the assessment approaches for CfE. Assessing achievement within and through CfE levels takes account of the key aspects of effective learning and progress. In order to progress within a level, learners should be able to demonstrate confidence, proficiency and security across the three aspects of assessment (breadth, challenge and application). This survey therefore assesses performance in literacy in line with the principles of assessment for CfE, by showing that pupils:</p> <ul style="list-style-type: none"> ○ have achieved a breadth of learning across the literacy Experiences and Outcomes ○ can respond to the level of challenge set out in the Experiences and Outcomes, and are moving forward to more challenging learning in some aspects ○ can apply what they have learned in new and unfamiliar situations. 																		

Survey components	<p>In order to achieve the aims and objectives for this SSLN the following survey components will be used:</p> <ol style="list-style-type: none"> 1. Reading assessments: <ul style="list-style-type: none"> • pencil & paper booklet containing four multi-item tasks (two long and two short), each incorporating a source reading passage and a series of questions • online reading assessments containing four multi-item tasks, each incorporating a source text (moving image and webpage) and a series of questions. <p>Both the pencil & paper and online assessments will be used to report reading attainment.</p> <ol style="list-style-type: none"> 2. Writing: half of schools will be asked to submit two representative pieces of class-based writing for pupils. The two pieces of writing should address two different purposes and be taken from two different curriculum areas. Guidance will be provided. 3. Listening & Talking: pupils at 40 per cent of schools will take part in a group discussion which will be assessed by an independent trained Support Assessor. 4. Pupil Questionnaire: will be used to report nationally on pupils' experiences of literacy learning. 5. Teacher Questionnaire: will be used to report nationally on teachers' experiences of teaching literacy.
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1.4 Modes of administration

Reading (pencil & paper)	<p>Pencil & paper booklets will be used for part of the assessment of the literacy reading Experiences and Outcomes.</p> <p>Tasks designed to assess at a single level will be used (P4=First Level, P7=Second Level, S2=Third Level).</p>
Reading (online)	<p>Online reading assessments will be used for part of the assessment of the literacy reading Experiences and Outcomes.</p> <p>Tasks designed to assess at a single level will be used (P4=First Level, P7=Second Level, S2=Third Level).</p>
Writing submission	<p>Two representative pieces of class-based writing will be submitted by teachers for each pupil. Pupil performance will be assessed by independent trained assessors.</p>

Listening & talking	Group discussion tasks will be used for the assessment of the literacy listening & talking outcomes. Pupil performance will be assessed by independent trained Support Assessor. Materials designed to be suitable for each level will be used (P4=First Level, P7=Second Level, S2=Third Level).
Pupil questionnaires	Pupils will be invited to complete an online questionnaire about their literacy learning experiences and opinions.
Teacher questionnaires	Teachers will be invited to complete an online questionnaire about their literacy teaching experiences and opinions.

1.5 Other survey comparisons

International surveys	Overall results from PISA may be compared with the SSLN by considering high level findings and trends. Although PISA does not align directly with CfE, the SSLN should allow broad comparison with this international evidence to help establish the importance of literacy within CfE.
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1.6 Reporting

Nature of reports	The SSLN results will be disseminated via the following reports: <ol style="list-style-type: none"> 1. A statistical report with accompanying survey design document and supplementary data tables. 2. Professional Learning Resources which are based on more detailed analysis of national data to support and inform improvements in learning and teaching practice in the classroom.
Timescale	The SSLN reports will be published during the following periods: <ol style="list-style-type: none"> 1. Statistical report: Spring 2017. 2. Professional Learning Resources: further literacy materials to be published by Education Scotland.

2. Technical Design

2.1 Sampling strategies

2.1.1 Pupils (reading assessments, writing submission, group discussion and pupil questionnaire)

Sampling frame	The sampling frame is made up of all P4, P7 and S2 pupils from schools in Scotland (including Gaelic and Independent schools) with the exceptions of those at special schools and schools withdrawn from the survey by their local authority.
Sample size	<p>The sample size is based on a fixed number of pupils per participating school, 4 per primary school (2 from each stage) and 12 per secondary school.</p> <p>With approximately 2,000 primary schools, 350 secondary schools and 75 through schools being asked to participate, the target sample size per stage will approximately be:</p> <ul style="list-style-type: none">• P4 = 4,150 literacy• P7 = 4,150 literacy• S2 = 5,100 literacy
Sampling strategy	<p>All schools will be invited to take part in the survey and the pupils will be selected using a disproportionate stratified random sample (fixed number per school).</p> <ul style="list-style-type: none">• The number of pupils to be sampled from each participating school is as follows:<ul style="list-style-type: none">- P4 = 2 pupils per school- P7 = 2 pupils per school- S2 = 12 pupils per school• Simple random sampling will be used with a 50/50 gender split in the pupil sample from each school for the literacy assessment (if this is not possible, the closest numbers of pupils to a 50/50 split should be used).• A retrospective sample check will be run to ensure that it reasonably reflects the population's deprivation distribution, using three deprivation categories:<ul style="list-style-type: none">- pupils living in areas with most deprivation (top 30%)- pupils living in areas with least deprivation (bottom 30%)- the remaining 'middle' 40% of pupilsThe deprivation categories are derived from pupils' home post codes, and the latest available Scottish Index of Multiple Deprivation (SIMD) data.

2.1.2 Teachers (Teacher Questionnaire)

Sampling frame	<p>For primary stages:</p> <ul style="list-style-type: none">• all P4 teachers from approximately half of the participating schools will be invited to complete a questionnaire• all P7 teachers from the remaining half of schools will be invited to complete a questionnaire. <p>In participating secondary schools, the following teachers will be asked to complete a questionnaire:</p> <ul style="list-style-type: none">• two S2 English teachers (selected at random)• two teachers (selected at random) from each of the following curriculum groups:<ul style="list-style-type: none">○ Mathematics, Sciences and Technology;○ Social Studies, Religious and Moral Education and Health and Wellbeing;○ Expressive Arts and Languages (excluding English);○ Support for Learning.
Target sample size	<p>Approximately:</p> <ul style="list-style-type: none">• 3,000 primary teachers• 860 secondary English teachers• 3,440 secondary non-English teachers

2.2 Survey components

2.2.1 Component 1: Reading assessment

Booklet allocation	Each participating pupil will be allocated one pencil & paper reading booklet and an online reading assessment using the allocation design described in Section 2.3. This allows each booklet to be distributed equally amongst the total pupil sample at each survey stage in a way that ensures an overlap between groups of pupils attempting each booklet.
Types	<p><u>Pencil & paper reading assessment</u> Each pupil will complete one pencil & paper reading booklet.</p> <p>Each task within the booklet will be based on a source text with a number of associated questions.</p> <p>Each booklet will comprise four tasks:</p> <ul style="list-style-type: none"> • two longer reading texts with ten associated items each • two shorter reading texts with five associated items each. <p>Booklets will comprise two couplets, each with a long task followed by a short task.</p> <p>Each booklet will be produced in two versions – A and B. Version B of each booklet will reverse the order of the couplets, though the long task will always come before the short task.</p> <hr/> <p><u>Online reading assessment</u> Each pupil will complete one online reading assessment.</p> <p>Each online package will comprise four tasks:</p> <ul style="list-style-type: none"> • two webpage texts with five associated items each • two moving image texts with five associated items each. <p>Overall the reading assessments will include a variety of tasks and, across the whole survey, will allow pupils to demonstrate breadth of learning, the ability to answer challenging questions, and the opportunity to apply their learning in new and different contexts.</p>
Sources	The tasks used to assess literacy will be a mixture of: <ul style="list-style-type: none"> • newly developed, pre-tested multi-item tasks • existing tasks which were used in both SSLN 2012 and SSLN 2014.

Number of booklets	<p>Total = 42 pencil & paper booklets and 24 online assessments (each in two versions differing by question presentation order).</p> <p>This equates to 14 pencil & paper booklets and 8 online assessments per stage, each with two versions.</p>																
Min. number of tasks	<p>Pencil & paper booklet</p> <p>There are 14 booklets per stage comprising 28 long multi-item tasks (17 unique) and 28 short multi-item tasks (16 unique).</p> <p>Online Booklet</p> <p>There are 14 booklets per stage comprising 28 webpage texts (9 unique) and 28 moving image texts (9 unique).</p>																
Min. number of pupils per task	<p>A minimum of 300 pupils are required to complete each task in order to carry out robust task level analysis. Aim to target 400 pupils per task to allow for attrition.</p>																
Task sampling	<p>In order to robustly monitor change over time, a representative minimum of 75 per cent of tasks will remain constant across surveys. Therefore a minimum of 75 per cent of tasks from the 2012 and 2014 surveys will be re-used in the 2016 survey. The remaining tasks will be tasks that were pre-tested by pupils in 2013 and 2015, and that maintain the distribution described below.</p>																
Item / task distribution	<p>The items and tasks will be distributed within each booklet/package to ensure a range of organiser, level of challenge, context, etc.</p> <p>The following table gives the approximate coverage aimed at in SSLN reading assessments for each of the identified aspects of reading</p> <table border="1"> <thead> <tr> <th></th> <th>P4</th> <th>P7</th> <th>S2</th> </tr> </thead> <tbody> <tr> <td>Access & Retrieve</td> <td>60%</td> <td>50%</td> <td>40%</td> </tr> <tr> <td>Integrate & Interpret</td> <td>25%</td> <td>30%</td> <td>40%</td> </tr> <tr> <td>Reflect & Evaluate</td> <td>15%</td> <td>20%</td> <td>20%</td> </tr> </tbody> </table>		P4	P7	S2	Access & Retrieve	60%	50%	40%	Integrate & Interpret	25%	30%	40%	Reflect & Evaluate	15%	20%	20%
	P4	P7	S2														
Access & Retrieve	60%	50%	40%														
Integrate & Interpret	25%	30%	40%														
Reflect & Evaluate	15%	20%	20%														

2.2.2 Component 2: Writing submission

Writing allocation	Half of all participating schools will be asked to submit two pieces of class-based writing for participating pupils.
Types	<p>Teachers will be asked to provide two pieces of writing for each pupil from two different curriculum areas and that were written for two different purposes. Schools will be provided with guidance on how to select samples of writing, including exemplification of suitable types of writing.</p> <p>The pieces of writing submitted should reflect the level at which the pupil is currently working.</p>

2.2.3 Component 3: Listening & talking

Group discussion allocation	Sampled pupils at forty per cent of schools will be asked to complete a group discussion assessment(s). The group discussion tasks will be distributed randomly amongst the pupil sample groups at each survey stage.
Types	<p>All group discussion will have three participants.</p> <p>In primary, the third pupil will be selected by the classroom teacher and will not be assessed.</p> <p>In secondary schools, pupils will be assigned to groups by the school and each group will be allocated a group discussion task.</p> <p>Each group discussion task will contain a task and materials designed to generate discussion.</p>
Sources	<p>The group discussion tasks will be a mixture of:</p> <ul style="list-style-type: none"> • newly developed, pre-tested tasks • existing tasks which were used in the 2012 and 2014 surveys.
Task sampling	In order to robustly monitor change over time, a representative minimum of 60 per cent of tasks from the 2014 survey will be re-used in the 2016 survey. The remaining tasks will be tasks that were pre-tested by pupils in 2013 and 2015.
Min. number of tasks	10 per stage.

2.2.4 Component 4: Pupil questionnaires

Questionnaire allocation	Each pupil participating in the literacy assessment will be invited to complete an online pupil questionnaire.
Types	There will be two versions of the pupil questionnaire – one for P4 pupils and one for the P7 and S2 pupils – to ensure language suitability for the stages concerned.
Content	The questionnaire consists of six sections with the purpose of collecting information about: <ol style="list-style-type: none"> 1. the pupil 2. learning in their school (pupils' views about how they learn and their teachers) 3. personal views on their own learning 4. enjoyment of and confidence in learning 5. school and home interactions 6. use of technologies.

2.2.5 Component 5: Teacher questionnaires

Questionnaire allocation	All sampled teachers are invited to complete an online teacher questionnaire.
Types	There are three versions of the teacher questionnaire: <ol style="list-style-type: none"> 1. Primary teachers 2. Secondary English teachers 3. Secondary non-English teachers. <p>Both 1. and 3. come in three sub-versions, each covering reading, writing, or listening & talking organisers. Version 2 covers all three organisers.</p>
Content	The questionnaire consists of four sections with the purpose of finding out about: <ol style="list-style-type: none"> 1. the teacher and their teaching (including confidence in teaching different aspects of literacy and CfE) 2. pupils' learning and assessment 3. pupils' activities in lessons 4. use of resources.

2.3 Material distribution strategies

Reading assessments (pencil & paper and online)

Assessments will be randomly allocated to pupils at the appropriate stage.

Across schools, within the pupil stage as a whole, all booklets, and all versions of every booklet, should be allocated to equal, or nearly equal, numbers of pupils, with similar gender mix.

The following table provides details of the allocation for pupils at each stage:

Pupil	Paper			Online		
1	R01A=	S1L1	S2L2	D01A=	w1w2	m1m2
2	R02A=	S2L2	S3L3	D02A=	w2w3	m2m3
3	R03A=	S3L3	S4L4	D03A=	w3w4	m3m4
4	R04A=	S4L4	S5L5	D04A=	w4w5	m4m5
5	R05A=	S5L5	S6L6	D05A=	w5w6	m5m6
6	R06A=	S6L6	S7L7	D06A=	w6w1	m6m1
7	R07A=	S7L7	S8L8	D01B=	m1m2	w1w2
8	R08A=	S8L8	S9L9	D02B=	m2m3	w2w3
9	R09A=	S9L9	S10L10	D03B=	m3m4	w3w4
10	R10A=	S10L10	S11L11	D04B=	m4m5	w4w5
11	R11A=	S11L11	S12L12	D05B=	m5m6	w5w6
12	R12A=	S12L12	S1L1	D06B=	m6m1	w6w1
13	R40A=	S13L13	S14L14	D20A=	m7m8	w7w8
14	R41A=	S15L15	S16L16	D21A=	m9m10	w9w10
15	R01B=	S2L2	S1L1	D01A=	w1w2	m1m2
16	R02B=	S3L3	S2L2	D02A=	w2w3	m2m3
17	R03B=	S4L4	S3L3	D03A=	w3w4	m3m4
18	R04B=	S5L5	S4L4	D04A=	w4w5	m4m5
19	R05B=	S6L6	S5L5	D05A=	w5w6	m5m6
20	R06B=	S7L7	S6L6	D06A=	w6w1	m6m1
21	R07B=	S8L8	S7L7	D01B=	m1m2	w1w2
22	R08B=	S9L9	S8L8	D02B=	m2m3	w2w3
23	R09B=	S10L10	S9L9	D03B=	m3m4	w3w4
24	R10B=	S11L11	S10L10	D04B=	m4m5	w4w5
25	R11B=	S12L12	S11L11	D05B=	m5m6	w5w6
26	R12B=	S1L1	S12L12	D06B=	m6m1	w6w1
27	R40B=	S14L14	S13L13	D20B=	w7w8	m7m8
28	R41B=	S16L16	S15L15	D21B=	w9w10	m9m10

Key: L = long task; S = short task;
w = webpage; m = moving image.

Distribution of materials for Pupils 29 – 56 would follow on from this table, with Pupil 29 receiving the same allocation as Pupil 1 and Pupil 30 receiving the same allocation as Pupil 2 etc.

This method ensures that there are no clusters of booklets within any particular school, thus minimising the possibility of school effects.

Group discussion tasks	<p>Primary schools will receive one group discussion task per stage. These will be randomly allocated to ensure an even spread of all tasks.</p> <p>Secondary schools will receive four different group discussion tasks which will be randomly allocated to groups by the independent Support Assessor.</p> <p>The independent Support Assessors will provide copies of the materials required by each school.</p>
Pupil questionnaire	<p>Pupil questionnaires login details will be sent to all participating schools. Teachers are asked to arrange for the pupils to complete the questionnaires at a convenient time under their supervision.</p>
Teacher questionnaire	<p>Teacher questionnaire login details will be sent to all participating schools. School SSLN Co-ordinators distribute the questionnaire login details to the sampled teachers.</p>

2.4 Coding and marking strategies

Reading assessments (pencil & paper)	<p><u>Coding and data capture</u> Coding options are developed from the mark schemes created by task developers as amended during the task review process. These coding options are final and will only be changed for subsequent surveys where agreed to be essential. This is to allow accurate attainment monitoring over time.</p> <p>A web-based tool is used to collect pupil responses and analyse results. 84 different survey forms, one for each booklet (and version), are created. Each question is an item in the booklet and each response option is a coding option, including 'blank' and 'other'.</p> <p><u>Marking</u> All the assessment items are dichotomously scored. In the majority of cases there is a single correct answer meriting a mark. In other cases the mark could be gained from any one of a number of alternative types of response, or from some combination of responses.</p> <p>Once all the item level responses are processed in this way, test scores are produced for pupils who have completed all their allocated booklets.</p>
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<p>Reading assessments (online)</p>	<p><u>Coding and data capture</u> The data capture will be electronic, pupils will respond online and the responses will not require manual coding.</p> <p><u>Marking</u> As for pencil & paper tasks.</p>
<p>Writing</p>	<p>The submitted writing will be assessed by three independent assessors (education professionals, usually current teachers, trained by SQA).</p>
<p>Group discussions</p>	<p>Pupil performance will be assessed during the discussion by an independent Support Assessor. This will be an educational professional, usually a current teacher, who has been trained by SQA.</p>

2.5 Analysis methodology

Reading assessments	<p>The data from the pencil & paper reading assessments and the online reading assessments will be combined and the overall results will be used to report reading achievement.</p> <p><u>Pupil level analysis</u> The final validated, marked and weighted assessment data will be summed up to pupil level, so each pupil will have a percentage test score (the total score over all assessments they have completed).</p> <p><u>Mean score analysis</u> The final validated and marked test data can be analysed at item level and aggregated.</p> <p>Analysis will be presented by various factors including:</p> <ul style="list-style-type: none">• stage (CfE Level)• gender• deprivation category. <p>Jackknife standard error estimates will be calculated to show levels of precision in the analyses.</p> <p>The final percentage scores will be used to summarise results into reporting categories.</p> <p>Other possible pupil level analysis includes:</p> <ul style="list-style-type: none">• the range of performance between pupils• the links between the characteristics identified from the pupil questionnaire and the pupil's attainment levels• the achievement profile in relation to the different organisers• the characteristics of those who are 'low achievers' and 'high achievers'. <p>Again, jackknife standard error estimates will be calculated the to show levels of variability in the analyses.</p>
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Writing	<p>Each script will be marked against the writing assessment criteria and assigned to one of five reporting categories:</p> <ul style="list-style-type: none"> • not yet working within the level • working within the level • performing well at the level • performing very well at the level • performing beyond the level. <p>Analysis will be presented by factors including:</p> <ul style="list-style-type: none"> • stage (CfE Level) • gender • deprivation category.
Group discussion	<p>Each pupil's listening and talking performance will be marked against the listening and talking assessment criteria and assigned to one of five reporting categories:</p> <ul style="list-style-type: none"> • not yet working within the level • working within the level • performing well at the level • performing very well at the level • performing beyond the level <p>Analysis will be presented by factors including:</p> <ul style="list-style-type: none"> • stage (CfE Level) • gender • deprivation category
Pupil questionnaires	<p>Pupil questionnaire results will be validated, analysed and reported at a national level.</p>
Teacher questionnaires	<p>Teacher questionnaire results will be validated, analysed and reported at a national level.</p>

Data weighting

Pupil and teacher response data for the survey will be weighted separately.

Pupil data

Population estimates will be calculated using data weighting. This will address, as much as possible, any imbalances in the national sample at each stage.

Individual weights will be applied to pupil data to account for any imbalances between the survey sample and the population as a whole with regard to:

- School size – this will address the fact that the pupil sample will include a higher proportion of pupils from small schools than the national distribution.
- Non-responding schools – this will ensure that any systematic differences in performance between participating and non-participating schools will not unfairly bias the national results.
- Population demographics (gender and deprivation) – this will account for any difference between our survey sample and the total population with respect to gender and deprivation.

The final weight for each pupil will combine each of these individual weights.

Teacher questionnaire data

Individual weights will be applied to teacher questionnaire data to account for any differences between our survey sample and the full population of school teachers across Scotland with regard to:

- School size – this will account for individual non-responding primary teachers. At secondary it will also account for, for example, the higher proportion of teachers being sampled from small secondary schools than the national distribution.

Response data from primary school teachers will not need to be weighted to account for school size as all class teachers of the stage were sent a questionnaire (therefore number of responses for each primary should be in proportion to the school size). Weighting would still need to be applied to account for any non-response.

- Non-responding schools – to be applied at a local authority level.

Sampling error estimation	Due to the way in which the pupil sample is drawn the standard formulas used to calculate the standard error from a simple random sample would not be appropriate. Standard errors are therefore calculated empirically, using the jackknife procedure.
Over time analysis	2012 was the baseline year for CfE literacy achievement and a core set of reading tasks and items was selected to allow analysis over time in future surveys. This core set will be a representative minimum 75 per cent of the total set of tasks and items used in this survey.