Scottish Survey of Literacy and Numeracy (SSLN) 2012

Literacy

Survey Design Document

Signed off by the SSLN Project Management Board in February 2012

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1. Policy Framework

1.1 Survey Aims and Objectives

Title	SSLN 2012 - Literacy
Timescale	May 2012
Aim	The SSLN is intended to provide relevant 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. The SSLN will be published as Official (or National) Statistics. The principal aim of the 2012 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 to establish a literacy baseline for the future CfE SSLN programme. An important additional purpose is to inform improvements in learning and teaching.
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	The following CfE levels are to be assessed for the following stages: <table><tr><th>Stage</th><th>CfE Level</th></tr><tr><td>P4</td><td>First</td></tr><tr><td>P7</td><td>Second</td></tr><tr><td>S2</td><td>Third</td></tr></table> However, given the nature of some of the assessments, reporting of performance beyond or below a level will be possible in some areas.
Objectives	The 2012 SSLN has the following primary objectives (prioritised): 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 establish a baseline for future 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.

	3. To gather information and report nationally on pupils' and teachers' experiences of learning and teaching literacy, along with their views about this experience. 4. To trial numeracy items for the 2013 survey.

1.2   Parameters

Scale	- All schools in Scotland will be invited to take part in the survey (excluding special schools). Schools which do not have the minimum number of pupils required to take part at each stage (fewer than three pupils at P4 and P7 or fewer than five pupils at S2) will not be required to take part. - 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 age. - Each pupil will be asked to undertake one paper booklet (approx one hour), one online assessment (approx 40 mins), a questionnaire (approx 20 mins), and either an assessed group discussion (approx 15 mins) or to provide two pieces of written work.
Equality and Accessibility	The design will be cogniscent of the need to ensure that the Scottish Survey of Literacy and Numeracy is accessible to as many people as possible, both in participation and dissemination.
Timing	The survey will be conducted in schools between 1/5/2012 and 4/6/2012.
Conduct	- There are five pupil survey components: 1. Reading assessments (pencil & paper and online) 2. Writing Submission 3. Group Discussion 4. Pupil Questionnaire 5. some pupils will be trialling materials for the numeracy survey - A sixth component is a Teacher questionnaire.
Gaelic	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 (booklets) or translated (questionnaires); one full set of

	materials per stage will be created and provided upon request and marked separately by Gaelic speakers. The results from Gaelic pupils will be included within the national level results. There will be no separate reporting of Gaelic results.
Overlap with other activity	• Will take account of developments with the literacy units within the National Qualifications for English. • Where relevant, will complement evidence gathered through Scotland's participation in PISA (Programme for International Student Assessment), in particular in terms of assessing the same aspects of reading as PISA. • To minimise burden on schools, the teacher and pupil questionnaire elements may be used to gather information not necessarily related to the teaching or learning of literacy and numeracy.
Data Handling Issues	• 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/guardians 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 will 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. • 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   Pupil Sampling

Sampling Frame	• All schools in Scotland (including Gaelic and Independent schools), with the exception of special schools and schools withdrawn from the survey by their local authorities. • All P4, P7 and S2 pupils from participating schools in Scotland, excluding pupils withdrawn by their parents/carers or teachers. Where there are fewer than three pupils in a stage in primary or fewer than five pupils in secondary, the school is excluded from that stage.
Pupil Sample Sizes	• Literacy component - the maximum pupil sample size achievable, with the resources available, is around 4,300 per stage for P4 and P7, and 5,100 for S2, giving a total pupil sample of approximately 13,700. This is based on approximately 2,150 primary schools (two pupils per school) and 425 secondary schools (12 pupils per school) participating. • Numeracy trial – where pupil numbers allow, an additional pupil (in primary stages) and up to two pupils (in S2) will also be sampled to trial numeracy items. Based on approximate school participation levels above, the maximum pupil sample size achievable for numeracy trial items is around 2,150 per stage for P4 and P7 and 850 at S2. • Pupils withdrawn from the survey, those that have left the school or who are unable to participate for whatever reason, will not be replaced.

1.4   Framework: Curriculum for Excellence (CfE)

Structure	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 3 main organisers, each with a number of sub-organisers: {{TABLE}}

Listening and 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

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.

The following table gives the approximate coverage aimed at in SSLN reading assessments for each of the identified aspects of reading

	P4	P7	S2
access & retrieve	60%	50%	40%
integrate & interpret	25%	30%	40%
reflect & evaluate	15%	20%	20%

The Framework for Assessment

Btc5, 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 should assess performance in literacy in line with the principles of assessment for CfE, by showing that pupils:

o have achieved a **breadth** of learning across the literacy experiences and outcomes;
o 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; and
o can **apply** what they have learned in new and unfamiliar situations.

Survey Components

In order to achieve the aims and objectives for this SSLN the following survey components will be used:

1.   Reading assessments:
• 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 4 multi-item tasks. Two of these are based on a webpage text and two are based on a

moving image text.

Both the pencil and paper and online assessments will be used to report reading attainment.

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 half of schools will take part in a group discussion which will be recorded for assessment.

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.

1.5   Modes of Administration

Reading (pencil & paper)	Pencil and paper booklets will be used for part of the assessment of the literacy reading experiences and outcomes. Tasks designed to assess at a single level will be used (P4=First Level, P7=Second Level, S2=Third Level).
Reading (online, including moving image)	Online reading assessments will be used for part of the assessment of the literacy reading experiences and outcomes. Tasks designed to assess at a single level will be used (P4=First Level, P7=Second Level, S2=Third Level).
Writing Submission	Two representative pieces of class-based writing will be submitted by teachers for each pupil.
Listening & Talking	Group Discussion tasks will be used for the assessment of the literacy listening and talking outcomes. A recording of the discussion will be submitted. Materials designed to be suitable for each level will be used (P4=First Level, P7=Second Level, S2=Third Level).
Numeracy trialling	The numeracy items will reflect the design of the future numeracy survey.
Pupil Questionnaires	Pupils will complete online questionnaires about their literacy learning experiences and opinions.
Teacher Questionnaires	Teachers will be invited to complete questionnaires about their literacy teaching experiences and opinions.

1.6   Other Survey Comparisons

International Surveys	Overall results from PISA, which assesses 15 year-olds, 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.
Future SSLN Surveys	The SSLN will focus on numeracy in 2013 and literacy again in 2014. It is intended that the SSLN will continue to alternate between literacy and numeracy in subsequent years with the primary objective of allowing consistent and robust comparison over time.

1.7   Reporting

Nature of Reports	The SSLN results will be disseminated via the following reports: 1. Headline Report – with accompanying survey design document and supplementary data tables. 2. Learning & Teaching Resources – includes more detailed analysis with learning and teaching points, based on national level data.
Timescale	The SSLN reports will be published during the following periods: 1. Headline Report – Spring 2013. 2. Learning & Teaching Resources – Spring to September 2013, produced by Education Scotland (ES).

2.   Technical Design

2.1   Sampling Strategies

2.1.1   Pupils (Reading assessments, Writing Submission, Group Discussion, Moving Image assessment and Pupil Questionnaire)

Sampling Frame	All pupils in Scotland at the stage(s) concerned, drawn from all schools in Scotland (including Gaelic and Independent schools), with the exception of, special schools and schools withdrawn from the survey by their authorities, and pupils withdrawn by their parents/carers or teachers.
Sample Size	The sample size is based on a fixed number of pupils per participating school, including trialling of numeracy items, of three per primary school and 14 per secondary school. With approximately 2,150 primary schools and 425 secondary schools being asked to participate, the sample size per stage will approximately be: • P4 = 4,300 literacy and 2,150 trialling numeracy • P7 = 4,300 literacy and 2,150 trialling numeracy • S2 = 5,100 literacy and 850 trialling numeracy

Sampling Strategy	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).
	- The number of pupils to be sampled from each participating school is as follows: - P4 = three pupils per school - P7 = three pupils per school - S2 = 14 pupils per school Therefore, each primary school will complete the literacy survey for four sampled pupils (two at P4 and two at P7), and each secondary school for 12 pupils, together with additional pupils trialling tasks for the 2013 numeracy survey. - Primary schools must have a minimum of three pupils at either of the relevant stages (i.e. P4 or P7), otherwise they will not be asked to take part. - At S2, where there are not enough pupils in a school to meet the requirements (i.e. 12 pupils), all available pupils will be selected, subject to a minimum of five. If there are fewer than five pupils at S2 then those schools will not be asked to take part. - 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: - pupils living in areas with most deprivation (top 30%) - pupils living in areas with least deprivation (bottom 30%) - the remaining 'middle' 40% of pupils The deprivation categories are derived from pupils' home post codes, and the latest available Scottish Index of Multiple Deprivation (SIMD) data. Numeracy Trial An additional randomly sampled pupil per stage in primary or two pupils (50/50 gender split) in secondary will trial numeracy items ready for the 2013 survey.

2.1.2   Teachers (Teacher Questionnaire)

Questionnaire Versions	There are three versions of the teacher questionnaire: 1. Primary teachers 2. Secondary English teachers 3. Secondary non-English teachers Both 1. and 3. come in three sub-versions, each covering reading, writing, or listening & talking organisers. The Secondary English teachers' version covers all three organisers.
Sampling Frame	1. Primary teachers – all teachers of P4 and P7 classes in schools participating in the survey. 2. Secondary English teachers – all S2 English teachers in the survey schools. 3. Secondary non-English teachers – all S2 subject teachers in the survey schools excluding English teachers.
Sample Size	Approximately: • 3,000 primary teachers • 850 secondary English teachers • 3,400 secondary non-English teachers
Sampling Strategy	1. Primary teachers – half of the participating primary schools will be asked to distribute the questionnaire to all their P4 teachers, and the other half of participating primary schools will be asked to distribute the questionnaire to all their P7 teachers. 2. Secondary English teachers – the secondary English teacher questionnaire will be distributed to two randomly sampled English teachers currently teaching at S2 within each participating school. 3. Secondary non-English teachers – the secondary non-English teacher questionnaire will be distributed to 2 randomly selected S2 teachers within each of the curriculum groupings below in each participating secondary school: • Mathematics, Sciences, and Technologies • Expressive Arts and Languages (excluding English) • Health and Wellbeing, Religious & Moral Education, and Social Studies. A further two questionnaires will be completed by Additional Support Needs teachers within each participating school where possible. Overall, each secondary school will be asked to complete ten teacher questionnaires (where possible).

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 a cartwheel/spiral allocation design. 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	Pencil & paper reading assessment Each booklet will comprise four sections: • two longer reading texts with ten associated items each. • two shorter reading texts with five associated items each. Booklets will comprise two couplets, each with a long item followed by a short item. 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 item will always come before the short item. Each pupil will complete one pencil & paper reading booklet. Each task within the booklet will be based on a source text with a number of associated questions. Online reading assessment Each pupil will complete one online reading assessment. Each online 'booklet' will comprise four sections: • two webpage texts with five associated items each • two moving image texts with five associated items each 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.
Sources	The tasks used to assess literacy are all newly developed pre-tested multi-item tasks.

Number of booklets	Total = 36 pencil & paper assessments and 18 online assessments (each in two versions differing by question presentation order).
	This equates to 12 pencil & paper assessments and 6 online assessments per stage, each with two versions.
Min. number of tasks	Pencil & paper booklet - two long multi-item tasks and two short multi-item tasks required per booklet. Hence, 72 long multi-item tasks and 72 short multi-item tasks in total (24 per stage or CfE level). There are 12 unique long multi-item tasks and 12 unique short multi-item tasks available to use per stage.
	Online booklet – four short multi-item tasks required per booklet. Hence 72 short multi-item tasks in total (24 per stage or CfE level). There are 12 unique short multi-item tasks available to use per stage.
Min. pupils per task	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.
Item/Task Sampling	The bank of multi-item tasks is currently being developed by the Scottish Qualifications Authority (SQA). For this survey a sample of available multi-item tasks will be used and hence no sampling is required. All available online assessments will be used.
	In order to robustly monitor change over time, at least 75 per cent of tasks will remain constant for the 2014 survey.
Item/Task Distribution	Each pencil & paper reading booklet will contain: ● two longer reading texts with ten associated items each. ● two shorter reading texts with five associated items each.
	Each online reading assessment will contain: ● four short multi-item tasks required
	The items and tasks will be distributed within each booklet to ensure a range of organiser, level of challenge, context, etc.

2.2.2 Component 2: Writing submission

Writing	Half of all schools sampled will be asked to submit two pieces of writing for participating pupils.
Types	<u>Writing assessments</u> Each participating pupil from schools taking part in the writing assessment will submit two pieces of class-based writing. The two pieces of writing for each pupil will be for two different purposes *and* from two different curriculum areas. The pieces of writing submitted should reflect the level at which the pupil is currently working.
Sources	Guidance to schools will specify that the two pieces of writing should address two different purposes *and* be taken from two different curriculum areas. A menu of choices will be provided to schools giving examples of suitable types of writing.

2.2.3 Component 3: Listening & Talking

Group Discussion Allocation	Half of all participating schools will be asked to run group discussion assessments with their participating pupils. The group discussion tasks will be distributed randomly amongst the pupil sample groups at each survey stage.
Types	All group discussion tasks will have either three or four participants and be filmed for independent assessment at a later date. In primary, the third/fourth non-survey pupil will be chosen by the school, but will not be assessed. In secondary, schools will be allowed to split the twelve pupils into four groups of three as they wish.
Sources	The group discussion tasks are all newly developed and pre-tested for this survey.
Group Discussion Sampling	The bank of group discussion tasks is currently being developed by SQA. For this survey the full set of available group discussion tasks will be used and hence no sampling of the group discussion tasks is required.
Group Discussion Distribution	Each group **discussion** task will contain a task and materials designed to generate discussion
Min. number of tasks	6 per stage.

2.2.4 Component 4: Trialling items

Types	Sufficient items from all parts of the numeracy survey will be assessed. One pupil per stage in primary and two pupils in secondary will be used.

2.2.5 Component 4: Pupil Questionnaires

Pupil Allocation	Each pupil participating in the literacy assessment will be allocated a 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.
Format	The questionnaire consists of five sections with the purpose of collecting information about: 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 The questionnaire will be administered online (subject to trialling)
Total No. of Pupils Participating	Every pupil taking part in component 1 will also be asked to complete a questionnaire. Approximately: • 4,300 P4 pupils will be asked to complete the P4 pupil questionnaire. • 4,300 P7 pupils will be asked to complete the P7/S2 pupil questionnaire. • 5,100 S2 pupils will be asked to complete the P7/S2 pupil questionnaire.

2.2.6 Component 5: Teacher Questionnaires

Teacher Allocation	For primary stages, half of the participating primary schools will be asked to distribute the questionnaire to all their P4 teachers, and the other half of participating primary schools will be asked to distribute the questionnaire to all their P7 teachers. In secondary schools, two randomly sampled S2 English teachers within each participating school, and a further two teachers from each of three curriculum groupings (plus two Additional Support Needs teachers) will be sampled.
Format	The questionnaire consists of four sections with the purpose of finding out about: 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
Total No. of Teachers Participating	There will be approximately 2,150 primary schools and 425 secondary schools participating. With 2,150 primary schools, there will be approximately 6,000 P4 and P7 classes in total. Hence, with schools submitting questionnaires for either all of their P4 teachers or all of their P7 teachers, **approximately 3,000 primary school teachers** could complete a questionnaire. With approximately 850 S2 English teachers and up to a further 8 teachers per secondary school (where possible two from each of the other curriculum groups and two Additional Support Needs teachers) **approximately 4,250 secondary school teachers** in total could participate.

2.3   Material Distribution Strategies

Reading Assessments (pencil & paper and online)	Assessments will be randomly allocated to pupils at the appropriate stage using a cartwheel/spiral allocation. A moving image assessment will be 'fixed' to each online booklet, and will therefore be allocated at random with the online booklet allocation.

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 cartwheel/spiral allocation for pupils at each stage:

pupil	paper			digital		
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	R01B=	S2L2	S1L1	D01A=	w1w2	m1m2
14	R02B=	S3L3	S2L2	D02A=	w2w3	m2m3
15	R03B=	S4L4	S3L3	D03A=	w3w4	m3m4
16	R04B=	S5L5	S4L4	D04A=	w4w5	m4m5
17	R05B=	S6L6	S5L5	D05A=	w5w6	m5m6
18	R06B=	S7L7	S6L6	D06A=	w6w1	m6m1
19	R07B=	S8L8	S7L7	D01B=	m1m2	w1w2
20	R08B=	S9L9	S8L8	D02B=	m2m3	w2w3
21	R09B=	S10L10	S9L9	D03B=	m3m4	w3w4
22	R10B=	S11L11	S10L10	D04B=	m4m5	w4w5
23	R11B=	S12L12	S11L11	D05B=	m5m6	w5w6
24	R12B=	S1L1	S12L12	D06B=	m6m1	w6w1

Distribution of materials for Pupils 25 – 48 would follow on from this table, with Pupil 25 receiving the same allocation as Pupil 1 and Pupil 26 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.

The assessments will be administered by the schools themselves between May and June 2012, with teachers supervising. It is suggested that separate assessment sessions be arranged to give the pupils a break between each type of assessment. The sessions can be carried out on the same day or a day or two apart. At the schools' discretion, pupils can be given as much time as necessary to complete the assessments. Completed assessment booklets will be returned from schools for pre-analysis processing. |
|---|---|
| **Writing Submissions** | Guidance will be provided to the sub-sample of schools submitting pieces of writing for the writing assessment on suitable pieces which they may wish to send. The writing submitted should reflect the level at which the pupil is currently working. |
| **Group Discussion Tasks** | Group discussion tasks are posted to schools and so random allocation will take place by alternating materials during the administration. Primary schools will only receive one topic per stage, and secondary schools will receive four different topics (e.g. the first school will receive GD1-4, the second 5,6,1and 2, etc.
Where there are fewer than 12 pupils in S2, schools may choose a suitable pupil from another stage or ask a pupil to participate twice. Schools with seven to nine pupils should only be sent three sets of materials, and with five or six pupils only two sets of materials. The specific GD task undertaken by each pupil should be identified by assessors at the time marks are returned to SQA. This can be used to determine the suitability of items for future use. |
| **Pupil Questionnaires** | [subject to trialling] Pupil questionnaires will be administered online. Teachers are asked to arrange for the pupils to complete the questionnaires at a convenient time under their supervision. |

Teacher Questionnaires	Primary teachers – half of the participating primary schools will be asked to distribute the primary questionnaire to all their P4 teachers, and the other half of participating primary schools will be asked to distribute the questionnaire to all their P7 teachers. Data from the pupil census is used to estimate the number of primary school classes at each stage. Teachers will be asked to complete one of three separate sub-versions, asking about either reading, writing or listening & talking. Secondary English teachers – the secondary English teacher questionnaire will be distributed to two randomly sampled English teachers currently teaching at S2 within each participating school. Data from the teacher census will be used for sampling. Secondary non-English teachers – the secondary non-English teacher questionnaire will be distributed to 2 randomly selected S2 teachers within each of the curriculum groupings below in each participating secondary school: • Mathematics, Sciences, and Technologies • Expressive Arts and Languages (excluding English) • Health & Wellbeing, Religious & Moral Education, and Social Studies. Again, data from the teacher census will be used for sampling. Teachers will be asked to complete one of three separate sub-versions, asking about either reading, writing or listening & talking. A further two questionnaires will be completed by Additional Support Needs teachers within each participating school where possible, and these will be two randomly sampled ASN teachers using teacher census data. Overall, each secondary school will be asked to complete ten teacher questionnaires (where possible). Once completed, schools will then return the teacher questionnaires for processing.

2.4 Coding and Marking Strategies

Reading Assessments (pencil & paper)	Coding and Data Capture There will be 36 different pencil & paper assessment booklets (twelve per stage). Coding options are developed from the mark schemes created by task developers as amended during the task review process. The coding options and marking rules are held in a database. 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. A web-based tool for creating survey forms is used to collect pupil responses and analyse results. 72 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', as used previously in paper-based coding sheets. The web-based tool eliminates the need for a separate process for recording and keying pupil responses. Marking 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. It remains to identify (in the recorded response data for each assessment booklet) the response, alternative responses, or combination of responses, that qualified the pupil for the mark for a particular assessment item, and thus to allocate the mark. Once all the item level responses are processed in this way, test scores are produced for pupils who have completed all their allocated booklets.
Reading Assessments (online)	Coding and Data Capture The data capture will be electronic, pupils will respond online and the responses will not require to be coded. Marking As for paper and pencil tasks
Writing	The submitted writing will be assessed by three independent assessors(education professionals, usually current teachers, trained by SQA).
Group Discussions	The group discussions will be recorded and saved for assessment by independent assessors. Pupil performance is then assessed by three independent assessors (education professionals, usually current teachers, trained by SQA).

Pupil Questionnaires	The pupil questionnaires will be conducted online.
Teacher Questionnaires	The paper copies of all teacher questionnaires will be collected and the respondent data will be input centrally using a web-based tool.

2.5   Analysis Methodology

Reading Assessments	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. Pupil Level Analysis 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). Mean Score Analysis Use of the final validated and marked test data at item level and aggregate this data as analysis requires. Analysis of pupil level results and mean score results will be possible by various factors including: • stage (CfE level) • gender • deprivation category • literacy organiser Use of jackknife standard error estimates to calculate the size of errors in order to show levels of precision in the analyses. • These final percentage scores will be used to summarise results in categories. The exact category thresholds have yet to be decided. Other possible pupil level analysis includes: • 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'. Again, use of jackknife standard error estimates to calculate the size of errors in order to show levels of variability in the analyses.
Writing	Reporting of writing will include performance beyond or below the relevant CfE Level for each stage.
Group Discussion	Reporting of listening and talking will include performance beyond or below the relevant CfE Level for each stage.

Pupil Questionnaires	Relevant findings will be analysed and reported at national level (headline report and learning and teaching resources). Questionnaire response data is weighted appropriately prior to being analysed. The possibility of using index scores and linking them to the pupil level data from the assessments for further analysis will be investigated (e.g. pupil confidence correlated with pupil achievement).
Teacher Questionnaires	Questionnaire response data is weighted appropriately prior to being analysed.

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 will be the baseline year for CfE literacy achievement and a core set of reading tasks and items will be selected to allow analysis over time in future surveys. This core set will be at least 75 per cent of the total set of items used in this survey.