

# **Attainment at Key Stage 1 to 16-18 in England: Methodology Document**

## **Contents**

- 1. Introduction**
- 2. Data sources**
- 3. Methodology**
  - 3.1 *Coverage information***
  - 3.2 *Data Quality***
  - 3.3 *Validation and Quality Assurance of source data***
  - 3.4 *Data processing and cleaning***
  - 3.5 *Variables derived during data processing***
  - 3.6 *Data added from other sources***
  - 3.7 *Disclosure control***
- 4. Process Maps**

## **Annex**

## **Methodology Document – Attainment at Key Stage 1 to 16-18**

### **1. Introduction**

This document provides an overview of the data used in the production of each of the Statistical First Releases (SFRs) that report on pupil attainment at key stage 1 to students aged between 16 and 18<sup>1</sup> in England (2012) (see annex) and the methodology used to calculate pupil attainment reported on in these publications.

This paper provides information on the data sources, their coverage, the quality and how the data is validated and processed.

All children in their final year of a key stage must be assessed. Most of the children will be in the year group with similarly aged pupils; for example, most 7-year-old pupils will be in year group 2 at the end of key stage 1 (KS1). Some children, however, may be older or younger because they are not being taught with their chronological age group.

The national curriculum standards have been designed so that most pupils will progress by approximately one level every two years. This means that pupils who achieved level 2 at the end of KS1, would be expected to achieve level 4 by the end of key stage 2 (KS2). An overview of the key stage system, assessments and the national curriculum is available here: <https://www.gov.uk/national-curriculum/overview>

Figure1: Age of child related to year group, key stage & expected attainment

|  |   |   |   |   |    |     |    |    |    |
|--|---|---|---|---|----|-----|----|----|----|
| Typical age of child (years)                           | 6 | 7 | 8 | 9 | 10 | 11  | 12 | 13 | 14 |
| National curriculum year group                         | 1 | 2 | 3 | 4 | 5  | 6   | 7  | 8  | 9  |
| Key stage  | 1 | 2 |   |   |    | 3   |    |    |    |
| Expected national curriculum level at end of key stage | 2 | 4 |   |   |    | 5/6 |    |    |    |

### **2. Data Sources**

**State-funded schools include those maintained by the local authority, academies and free schools.**

#### **Phonics**

The phonics screening check is for all year 1 pupils in all state-funded schools. From 2013, there is a further check of pupils in Year 2 who previously did not meet the standard.

State-funded schools report pupil-level **phonics screening check results** to their local authority (LA). If a child moves school after taking the phonics screening check their results should be passed to their next school.

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<sup>1</sup> This phase of education is often referred to as 'Key Stage 5', and the associated SFR is called the 'A level and equivalent qualifications' SFR.

These results should be submitted to the Department for Education (referred to from here onwards as 'the Department') by the LA or other accredited agency via COLLECT (Collection On-Line Learners Education Children and Teachers) by the end of July each year. COLLECT is a system used by the Department to collect data from schools, LAs and other organisations.

### **Key Stage 1**

Up to 2004, state-funded schools were required to submit KS1 test and teacher assessments (TA). Since 2005, state-funded schools have only been statutorily required to report KS1 TA to their LA; and the LA is statutorily required to pass these results to the Department via COLLECT. LAs ensure that KS1 Teacher assessments are collected from every expected school and include all eligible pupils, including those disappplied or absent from any of the assessments. LAs also ensure that each school is moderated every four years. Individual pupil level attainment data is also included for non-state-funded and independent schools that choose to take part in the assessments.

### **Key Stage 2 and 3**

Statutory testing and assessment for pupils up to the age of 14 is the responsibility of the Standards and Testing Agency (STA), an executive agency of the Department (previously this was done by the Qualification and Curriculum Development Agency).

KS2 assessments must be administered by state-funded schools and tests are marked by STA. KS2 teacher assessments are also collected by STA and the information is collated and passed onto the Department. Independent schools and pupil referral units may take part in the KS2 assessments if they wish to do so.

In 2013, there were statutory externally marked tests in reading and mathematics as in previous years. A new externally marked test in grammar, punctuation and spelling was also introduced.

In addition to the standard tests for national curriculum levels 3 to 5, externally marked level 6 tests were also available for more able pupils.

Schools also had to provide teacher assessments for English, reading, writing, mathematics and science.

It was decided that in 2013, we would not combine the reading test results and the writing TA to produce an overall English level as we did in 2012. In 2012, there were statutory externally marked tests in reading and mathematics. Externally marked writing tests were also statutory in a sample of schools. All other state-funded schools had to administer the writing test to inform their writing teacher assessment but could choose to mark it internally if they wished. Subject levels for English were calculated by combining the reading test mark with the writing teacher assessment. An externally marked science test was also statutory in a sample of schools between 2010 and 2012. A new sample science test is now being developed which will take place every two years beginning in 2014.

Statutory key stage 3 (KS3) tests were abolished after 2008. However schools are still required to submit KS3 teacher assessments in English, mathematics and science. Collection of non-core teacher assessments was also abolished after 2008, but schools remain obliged to make the assessments and return the results to parents.

### **Key Stage 4 and 16 to 18**

Both the key stage 4 (KS4) and 16 - 18 datasets are compiled using information matched together from three data sources:

- i. Prior attainment records (KS2 and KS3 results [where available] for KS4 prior attainment and (limited) KS4 results for 16-18 prior attainment);
- ii. School Census records; and
- iii. Qualification entries and results collected from awarding organisations

Attainment data for all pupils at the end of (KS and 16 to 18 is collected from Awarding Organisations by the Department's contractor.

### **Characteristics**

The pupil level characteristic information within these SFRs are derived from **School Census (SC)** returns made by state-funded schools during a single selected period of the school day and provided to the Department in January each year. It is a statutory requirement for schools under section 537A of The Education Act 1996 to provide a SC return to the Department. School Census information for January 2013 has already been published, and detailed information on the coding of ethnicity, free school meal eligibility, English as a first language and special educational needs can be found in the technical notes of SFRs 'Schools, Pupils and their Characteristics, January 2013' and 'Special Educational Needs in England, January 2013', published at:

[www.gov.uk/government/publications/schools-pupils-and-their-characteristics-january-2013](http://www.gov.uk/government/publications/schools-pupils-and-their-characteristics-january-2013)

and [www.gov.uk/government/publications/special-educational-needs-in-england-january-2013](http://www.gov.uk/government/publications/special-educational-needs-in-england-january-2013).

Published figures are taken from the **National Pupil Database (NPD)** which is a longitudinal database linking the national curriculum assessment results and the School Census data detailed above.

Further information on the NPD, can be found at: [www.education.gov.uk/npd](http://www.education.gov.uk/npd).

## **3. Methodology**

### **3.1 Coverage information**

#### **General**

National figures (e.g. in tables 9 to 13 of KS1 SFR in 2012) cover all schools in England with pupils eligible for assessment but, as participation by independent schools is voluntary, the national analyses only include results from those independent schools which chose to make a return and which met the statutory standards for assessment and moderation.

National figures which cover attainment by pupil characteristics (e.g. in tables 14, 15a, 15b and 15c of KS1 SFR in 2012) cover state-funded mainstream and state-funded special schools only; they exclude state-funded hospital schools and pupil referral units.

Local authority figures cover state-funded mainstream and state-funded special schools only; they exclude state-funded hospital schools and pupil referral units. Two different calculations of the national results are presented in the supplementary tables: one which is consistent with the national results, based on all schools (all state-funded and independent schools that returned assessment results); and the second for state-funded schools only (excluding state-funded hospital schools and pupil referral units), consistent with the results for each LA.

Due to the fact that some SFRs are published using provisional data, care should be taken when comparing local authority figures. It is known that these figures can in some instances change significantly from the provisional to the final version.

There are some pupils for whom a characteristic was not obtained, refused or could not be determined. These pupils appear as “unclassified” in the tables. As they are still eligible for the results they contribute to the “All pupils” figures. Therefore, adding together the number of pupils in each sub category will not necessarily equal the total number of pupils.

### **Phonics**

Only state-funded schools with a year 1 cohort took part in the 2012 phonics screening check. In 2013, all year pupils in state-funded schools were required to take the phonics screening check. In addition, all pupils in year 2 who had not previously passed the check (i.e. including those who failed the check in year 1 or did not take it in year 1) were required to retake the check.

Pupils are only deemed eligible in the reporting of the phonics screening check if they have a valid Phonics outcome code. Pupils that do not have a valid outcome are excluded, so they do not appear in the number of eligible pupils or in the percentage meeting the required standard.

### **Key Stage 1**

For the calculations showing the percentage of pupils achieving a particular level, the denominator for national and LA results is the number of pupils who are eligible for KS1 teacher assessments. This denominator includes the valid levels ‘working towards Level 1’ (W), 1, 2C, 2B, 2A, 3, 4, pupils who, were significantly absent so that no teacher assessment could be made on that pupil (A), were disapplied from the national curriculum (D), or were unable to access the assessment (U) (relevant to science only). Pupils with missing, or invalid results are not included in the calculations.

### **Key Stage 2**

For the calculations showing the percentage of pupils achieving a particular level in the KS2 tests, the denominator for national results is the number of pupils who have a valid test level for that subject. This denominator includes pupils who were absent (A), working below the level of the test (B), not awarded a test level (N), annulled due to maladministration (Q) or were working at the level of the test but unable to access

it (T). Pupils with missing (M), lost (X) results or those pending the outcome of a maladministration investigation (S) are not included in the calculations.

Similarly, for the calculations showing the percentage of pupils achieving a particular level in the KS2 teacher assessments, the denominator for national results is the number of pupils who have a valid teacher assessment level for that subject. This denominator includes pupils who were significantly absent so that no teacher assessment could be made on that pupil (A), were disapplied from the national curriculum (D) or were working below level 1 (W). Pupils with missing (M) results are not included in the calculations.

For KS2 calculations at LA level, pupils with missing (M) and pending maladministration (S) are also included in the denominator for the test percentages and pupils with missing (M) results are also included in the denominator for the TA percentages.

The LA figures in KS2 SFRs are also adjusted to allow discounting of pupils flagged as 'recently arrived from overseas' during the performance tables checking exercise. These pupils can be discounted from the results published in the performance tables for schools and LAs but are not excluded from national figures. Schools are able to seek an adjustment to their results for pupils who were admitted for the first time to an English school during years 5 or 6 whose first language is not English. Their test results and teacher assessments will be excluded from the school and LA level figures. The provisional data is produced before the performance tables checking exercise so it is not possible to exclude these pupils from the provisional data published for the latest year.

### **Key Stage 3**

In 2012, the KS3 teacher assessment data has been published alongside KS4 results to create a single statistical release for secondary school attainment. 2012 was also the first year the statistical release was produced based on the National Pupil Database.

For calculations showing the percentage of pupils achieving a particular level in the KS3 teacher assessments, the denominator for national results is the number of pupils who have a valid teacher assessment level for that subject. This denominator includes pupils who were significantly absent so that no teacher assessment could be made on that pupil (A), were disapplied from the national curriculum (D) or were working below level 1 (W). Pupils with missing (M) results are not included in the calculations.

Calculations at LA level are based on state-funded schools only. The denominator for LA results is the number of pupils who have a valid teacher assessment level for that subject (including pupils with a missing teacher assessment). This denominator includes pupils who were significantly absent so that no teacher assessment could be made on that pupil (A), were disapplied from the national curriculum (D) or were working below level 1 (W).

### **Key Stage 4**

The 'GCSE and equivalents' SFR reports results based on pupils at the end of KS4.

Figures report achievements at GCSE or other qualifications of different groups of pupils at the end of KS4.

The LA figures in the 'GSCE' SFRs are also adjusted to allow discounting of pupils flagged as 'overseas pupils' during the schools checking exercise for the Performance Tables. 'Overseas pupils' are pupils who have recently arrived from overseas whose first language is not English. These pupils can be discounted from the results published in the Performance Tables for schools and LAs but are not excluded from national figures. Schools are able to seek an adjustment to their results in respect of all such pupils who were admitted for the first time to an English school on or after 1 July two years previously (e.g. in 2012, schools were able to apply for the discounting of pupils who arrived on or after 1 July 2010) . Their achievements will be excluded from the school and LA level figures.

The SFR covering 16-18 year old examination results is currently called the 'A level and equivalent' SFR, and provides the earliest information on the overall achievements of young people in A level and other Level 3 qualifications. The coverage of the LA and regional statistics is state-funded schools and colleges in England. This includes maintained mainstream schools, City Technology Colleges, academies, free schools, maintained special schools and FE sector colleges, but excludes independent schools, pupil referral units and other government department funded institutions.

The information is based on data collated for the School and College performance tables and covers achievements in all Level 3 qualifications approved under Section 96 of the Learning and Skills Act (2000).

The coverage of the SFR is 16 to 18 year old students at the end of their final year of post-16 study. However, as the year group is not collected, a set of proxy criteria is used. The criteria are that students must be aged 16, 17 or 18 and they must have been entered for a GCE/Applied GCE A level or an Applied GCE Double Award in the summer of the reporting year, or a Level 3 qualification equivalent in size to at least one GCE/Applied GCE A level during the reporting year.

The LA figures in the SFR are also adjusted to allow discounting of pupils flagged as 'overseas pupils' during the schools checking exercise for the Performance Tables. 'Overseas pupils' are pupils who have recently arrived from overseas whose first language is not English. These pupils can be discounted from the results published in the Performance Tables for schools and LAs but are not excluded from national figures. Schools are able to seek an adjustment to their results in respect of all such pupils who were admitted for the first time to an English school on or after 1 July two years previously (e.g. in 2012, schools were able to apply for the discounting of pupils who arrived on or after 1 July 2010) . Their achievements will be excluded from the school and LA level figures.

### ***3.2 Data Completeness and Quality***

#### **Phonics**

In 2013, the provisional phonics data taken after the deadline for submission contained data from 16,155 of the 16,206 expected schools (approximately 99.7%) and 15,864 (98%) had been submitted and authorised by 2 August.

The Phonics data is matched to the pupil's corresponding January School Census record and used to produce the provisional Phonics SFR

LAs can submit further data (either additional data or data which amends that already submitted) after the initial closure of the collection until the end of October. The

collection is then closed and no further changes can be made. This data will be used to produce the final phonics data. The level of change between the provisional and final phonics data is not usually significant so a final Phonics SFR is not produced. However the final data is used to update any time series tables in the following year's provisional SFR.

### **Key Stage 1**

LAs are responsible for moderating KS1 teacher assessments to ensure that they are appropriate and consistent with national standards. They must ensure that at least a quarter of their schools receive external moderation visits each year and that all schools are moderated at least once in a four year cycle. Schools where assessment is felt to be at particular risk of inaccuracy will be moderated more frequently. If the moderator judges that a school's assessments are not consistent with national standards, the head teacher will ensure that the assessments are reconsidered by the teachers concerned. If the moderator's judgements continue to differ from the schools, the LA will substitute their assessments for those of the school.

The provisional KS1 data produced immediately after the initial closure of the collection generally contains data for over 99 per cent of the expected schools. In 2013, there were 16,165 schools expected to submit data. The provisional data contained results for 16,153 and 16,080 (99.5%) had been submitted and authorised by 2 August.

The data is then matched to pupils' corresponding January School Census records and used to produce the provisional KS1 SFR.

LAs can submit further data (either additional data or data which amends that already submitted) after the initial closure of the collection until the end of October. The collection is then closed and no further changes can be made. This data is used to produce the final KS1 data. The level of change between the provisional and final KS1 data is generally so small that a final KS1 SFR is not produced. However the final data is used to update any time series tables in the following year's provisional SFR.

### **Key Stage 2**

Head teachers are responsible for ensuring that test materials are kept securely prior to the tests, that the procedures for administering the tests are followed and that completed scripts are kept in a secure place until they are collected for marking. LAs are responsible for monitoring the administration of the tests in the schools in their LA and must make unannounced visits to at least 10 per cent of their KS2 schools, before, during and after the test period. Standards and Testing Agency (STA) representatives may also make monitoring visits.

The tests are externally marked by STA to ensure that marking is consistent between schools. There are no quotas set for each of the national curriculum levels, or underlying assumptions about the proportion of pupils who should be at any particular level. Proportions are decided entirely by how pupils' attainment measures up to the standards of the national curriculum.

STA is responsible for ensuring that standards in the tests remain consistent from year to year. To do this, they use statistical evidence drawn from the pre-test; and judgemental evidence provided by the most senior markers on how pupils performed in the test compared to pupil performance on previous tests. National data is available at the level setting meeting to demonstrate the impact of the decisions made but is not used as the basis for decision making. The level setting process is



observed by representatives from the teacher associations and unions.

After marking, marked scripts are returned to schools. If schools have concerns over the marking of a script, they may return this to STA to be re-marked.

STA may investigate any matter brought to its attention where there is doubt over the accuracy or correctness of a child's results in the tests. Results for schools under investigation may be withheld until the investigation is complete. Each year, a few schools have their results amended or annulled because they do not comply with the statutory arrangements. Maladministration can lead to changes to, or annulment of, results. It can apply to whole cohorts, groups of children or individual children.

Schools must submit their teacher assessments in English, mathematics and science, including component attainment targets to STA. Submissions must include teacher assessment data for every child that was registered to sit a national curriculum test, and those who were registered as working below the level of the tests. Independent schools and non-maintained special schools that are participating in the assessment and reporting arrangements are also required to submit teacher assessments in the subjects that they have registered their children for.

The provisional KS2 data is based on test and teacher assessment data provided to the Department by STA in mid-July. It will contain test results for all pupils who took the KS2 tests (although some of these may subsequently be updated following a successful marking review or the completion of a maladministration investigation). In 2012, approximately 9 per cent of teacher assessments were missing in this data as they were not returned by schools by the submission deadline. As a result, we decided to exclude pupils with missing TA from the results published in the provisional SFR as they could otherwise have been misleading. The vast majority of the missing TA had been submitted in time for revised SFR and so this adjustment was no longer needed. Late submission of TA was not an issue in 2013 and the provisional data contained TA for over 99.9% of pupils.

The data is then matched to corresponding January School Census records and prior attainment records and used to produce the provisional KS2 SFR.

The data is also collated into school level information and shown to schools, together with the underlying pupil data during the performance tables checking exercise. Schools are required to check the data and notify the Department of any pupils that are included in their school in error, or of any missing pupils. They are also able to apply for the discounting of any pupils who have recently arrived from overseas whose first language is not English. Schools can also notify us of any other errors in the data such as missing prior attainment results. Any changes requested are validated to ensure that they comply with the rules before being accepted.

Following the checking exercise the revised data is produced. This includes changes requested by schools during the checking exercise, changes resulting from any successful marking reviews, any changes resulting from the completion of maladministration investigations and any late or changed teacher assessments. The data is then published in the revised KS2 SFR and in the primary school performance tables.

Following publication of the performance tables, some schools notify us of further changes required in the data. These changes are validated in the same way as those which are received during the checking exercise and final data is produced. As the level of change between the revised and final KS2 data is generally so small, a final

KS2 SFR is not produced. However the final data is used to update any time series tables in the following year's SFRs.

The following table shows the difference between the provisional, revised and final results for the percentage of pupils achieving level 4 or above in reading and in mathematics over the last 5 years:

|             |             | Percentage of pupils achieving level 4 or above |      |      |      |      |
|-------------|-------------|---|------|------|------|------|
|             |             | 2008  | 2009 | 2010 | 2011 | 2012 |
| Reading     | Provisional | 86%   | 86%  | 84%  | 84%  | 87%  |
|             | Revised     | 87%   | 86%  | 83%  | 84%  | 87%  |
|             | Final       | 87%   | 86%  | 83%  | 84%  | 87%  |
| Mathematics | Provisional | 78%   | 79%  | 80%  | 80%  | 84%  |
|             | Revised     | 79%   | 79%  | 79%  | 80%  | 84%  |
|             | Final       | 79%   | 79%  | 79%  | 80%  | 84%  |

### Key Stage 3

Schools must submit their teacher assessments in English, mathematics and science. Submissions must include teacher assessment data for every pupil who has completed the KS3 programme of study.

The 2012 KS3 SFR was produced from data provided to the Standards and Testing Agency as at 30<sup>th</sup> July 2012. This contained data covering 89.8% of pupils.

### Key Stage 4 and 16 - 18

Attainment data collected by the contractor is passed onto the Department and the contractor's checking team in early autumn. The contractor's checking team collates the data into school level information and the un-amended data is then passed to schools, together with the underlying data for checking prior to publication in the 'School and College performance tables'. Any amendments as a result of the school checking exercise are validated by the contractor's checking team before being passed to the Department. The data are then checked by the Department prior to the publication in the annual 'School and College performance tables'. Any changes notified by schools in the period following publication are validated before the data is finally frozen in the spring. (NB: Those schools that do not confirm that they have checked their examination results and background information are identified within the performance tables by an 'R' next to the school name).

Provisional 'GCSE' and 'A level' SFRs are published towards the end of October each year using the 'unamended' data (hence the reason they are termed the 'provisional' SFRs). This data is received by the Department in second half of September and is then quality assured before SFR production begins.

The schools and college data checking exercise takes place from the end of September and the beginning of October, during which schools and colleges will have the opportunity to check their KS4 and 16-18 data ahead of the Performance Tables. For the 2013 Performance Tables the checking website will open on 23<sup>rd</sup> September 2013 and close for amendments on the 7<sup>th</sup> October 2013.

The Department then receives (usually) three sets of 'amended' data from around the second half of November to the middle of December. Each time this data is received is it checked and feedback is provided to the matching contractors for possible corrections between amended data.

The final amended data is used for the January 'GCSE' and 'A level' SFRs and also the KS4 and 16-18 Performance Tables, which are all published on the same day towards the end of January. This data is referred to the 'amended' or 'revised' data, and the SFRs referred to as the 'revised' SFRs.

During October to January amendment requests from schools and colleges are considered and processed; late notified results and re-marks are received from awarding organisations; recalculation of performance measures based on amended data is undertaken, along with extensive quality assurance of data carried out by DfE before publication.

'Final' or 'post errata' data is received by the Department towards the end of March/early April, which is again quality assured. This final data is used to update the Performance Tables and is also used for Parliamentary Questions, ad-hoc queries and for reference to the previous year's data in the following year's provisional and revised SFRs.

For 6 weeks after publication of the Performance Tables schools and colleges can submit further amendments and details of late notified results for later update of 2013 Performance Tables entries.

Some caution should be taken when comparing local authority figures. It is known that these figures can in some instances change significantly from the provisional to the final version.

### ***3.3 Validation and Quality Assurance of source data***

#### **Phonics and Key Stage 1**

In the 2013 phonics data, there were 192 duplicate cases, where more than one school had submitted data for the same pupil and we were unable to determine which school the pupil was attending for the check. These cases were left in the data. As these are not clustered within any LAs or schools they are unlikely to have an effect on the attainment percentages reported.

Schools are required to finalise their phonics marks and outcome data and KS1 teacher assessments, enter them into their management information system (MIS) and forward them electronically to their LA by the end of the summer term. The MIS will include a number of validation rules which check the data that is entered and alert the school to any issues so that they can be corrected before submitting the data to the LA.

The LA ensures that phonics data and KS1 teacher assessments are collected from every expected school and that they include the expected number of pupils. The Department's COLLECT system identifies any errors/omissions when the data are loaded and the Department contacts the LA for the corrected/complete details and for missing schools' results.

As part of its checks on data completeness, the Department performs a number of validation checks on the data submitted including a comparison of the number of

boys and girls included in each school's return against the school's School Census return. Where these numbers show a significant difference, the Department contacts the LA for confirmation that the school's submission is complete.

### **Key Stage 2**

Assessment data received from STA are combined with pupil characteristics from the school census and prior attainment by the Department's contractor. These data are then cleaned to remove null or invalid values following guidelines set out by the Department and amalgamated for each school.

At every stage in the data cycle, the Department checks all calculations used in the production of the figures. The Department carries out checks on the data to ensure that the files produced by the checking contractor comply with the specified format and contain the correct information. All indicators at school level, LA and national level are re-derived to ensure the checking contractor's systems are programmed correctly.

This entire process is subject to a 'dry run' during the summer. This involves producing a dummy dataset, from the previous year's dataset, which conforms to how the current year's data will be supplied (e.g. if new subjects have been introduced, then dummy data would be added to last year's data to simulate these). This dummy dataset is used to test the contractor's systems and the Department's checking processes. This allows potential problems to be resolved prior to the receipt of the live data.

### **Key Stage 3**

STA checks every school's KS3 teacher assessment data against the Year 9 pupil data from the spring census and discrepancies are checked and resolved with schools.

Assessment data received from STA are combined with pupil characteristics from the school census and prior attainment by the Department's contractor.

In 2012 the KS3 teacher assessment data covered 89.8% of pupils as at the end of July. Therefore analysis was carried out on the data to determine national representativeness, before amalgamation with census and prior attainment data

### **Key Stage 4 and 16 to 18**

The Department's contractor matches performance data received from the Awarding Organisations for each pupil. This data is then passed on to another team to aggregate the data by school, LA and national levels in accordance with rules specified by the Department. The data are then sent out to schools for verification. All changes made by schools are subject to validation.

For most amendments, e.g. for the addition/change to current attainment levels or pupils' contextual information, evidence is required before the amendment can be implemented. In situations where a requested amendment is rejected, the checking contractor will pass this information on to the Department to either resolve internally or by contacting the school.

At every stage in the data cycle, the Department checks calculations used in the production of the figures. The Department carries out checks on the data to ensure that the files produced by the checking contractor comply with the specified format and contain the correct information. At school level, LA and national level, indicators are re-derived to ensure the checking contractor's systems are programmed

correctly.

This entire process is also subject to a 'dry run' during the summer before results are released.

### **School Census**

Characteristics data from the spring term **School Census** is used. The School Census data goes through various levels of checking. Schools input the data into a Management Information System (MIS). The MIS software has built in validation ensuring data is inputted in a consistent format. The validated school census returns are submitted to the Department via the data collection system COLLECT. Validation software routines, including checks against previous terms' returns to ensure historic consistency, are used by the Department before the return is finalised and authorised. Queries flagged by the validation checks are referred back to the LA/school to be resolved. Information on the validations carried out can be found in the School Census business and technical specifications at the following link: <http://www.education.gov.uk/researchandstatistics/stats/schoolcensus>

Occasionally, a pupil will appear more than once on the School Census, for example, due to a change of school or dual registration. Rules for deriving the main School Census record have been agreed to eliminate these duplicates.

### ***3.4 Data processing and cleaning***

The NPD extract links attainment records and teacher assessments information with the pupils' characteristics from the latest years' main spring school census. To enable this linking, records are matched by a matching contractor, using fields such as Surname, Forename, Date of Birth, UPN, Gender and Postcode. This successfully matches around 60-75% of pupils. Additional, more complex, routines are then applied to match as many of the remaining pupils as possible, up to around 98%.

#### ***3.4.1 Duplicated pupils***

Duplicate records will be eliminated wherever possible by merging records and taking the best results for each subject.

Occasionally, a pupil will appear more than once in data, resulting, for example, from a change of school, or dual registration. Rules for deriving the main record and a combined 'best' attainment record for these pupils have been agreed with the matching contractor. Where a pupil has more than one result in a subject, the highest level will be taken and all other results discounted. Occasionally a pupil will appear more than once on the Census. Rules for deriving the main census record have been agreed to eliminate duplicates based on factors such as enrolment and school type.

#### ***3.4.2 Geography***

Only national curriculum assessments at each key stage in England are included in the SFRs. No additional geography filters are applied to the National or the local authority statistics. Any pupil residency tables include an additional filter to exclude pupils who attend schools in England but live outside England or for whom we do not know which local authority they reside.

### ***3.5 Variables derived during data processing***

Some of the variables in the NPD are derived from other variables rather than collected directly. The table below summarises derivation rules for any breakdowns added in 2012 for the first time and also in brief other production rules considered helpful in interpreting the main tables.

| Variable                          | Description   |
|-----------------------------------|---|
| English as a First Language (EFL) | The EFL variable is made up of two aggregated variables, “minor language group” and “major language group”, which classify pupils according to whether their first language is known/believed to be English or not.   |
| Ethnicity                         | Ethnicity is broken down into two main variables: a minor grouping variable that contains 18 categories and a major groupings variable with 6 categories.   |
| Special Educational Needs (SEN)   | <p>The SEN variable indicates whether a pupil has learning difficulties or disabilities that make it harder for them to learn than most children of the same age.</p> <p>Pupils with special educational needs comprise those at School Action, School Action Plus or with statements of SEN:</p> <ul style="list-style-type: none"> <li>▪ School Action – where extra or different help is given, from that provided as part of the school’s usual curriculum.</li> <li>▪ School Action Plus – where the class teacher and the SENCO receive advice or support from outside specialists (the specialist teacher, an educational psychologist, a speech and language therapist or other health professionals).</li> <li>▪ Statement – a pupil has a statement of SEN when a formal assessment has been made. A document setting out the child’s needs and the extra help they should receive is in place.</li> </ul>  |
| Free school meals (FSM)           | <p>The FSM variable is a binary indicator of whether a pupil’s family have claimed eligibility for free school meals. Parents are able to claim free school meals if they receive a qualifying benefit. The list of qualifying benefits has changed over time, but it is currently:</p> <ul style="list-style-type: none"> <li>▪ Income Support</li> <li>▪ Income-based Jobseeker's Allowance</li> <li>▪ Income-related Employment and Support Allowance</li> <li>▪ support under Part VI of the Immigration and Asylum Act 1999</li> <li>▪ The Guarantee element of State Pension Credit Child Tax Credit, provided they are not entitled to Working Tax Credit and have an annual gross income that does not exceed £16,190, as assessed by HM Revenue &amp; Customs. where a parent is entitled to the Working Tax Credit run on – the payment someone receives for a further four weeks after they stop qualifying for Working Tax Credit – their children are entitled to free school lunches</li> <li>▪ Children who receive an eligible benefit in their own right are also eligible.</li> </ul> <p>Please note: The FSM variable does not relate to pupils who actually received free school meals but those who are eligible to receive free school meals. Pupils not eligible for free school</p> |

|  |  |
|--|--|
|  | meals or unclassified pupils are described as 'All other pupils' in the SFR.   |
| Disadvantaged children                                       | Pupils known to be eligible for FSM, or are looked after children for more than 6 months, are eligible for the pupil premium (PP). From 2012 this eligibility was redefined to include any pupil eligible for FSM in the previous six years as indicated in any termly or annual school census, pupil referral unit (PRU) or alternative provision (AP) census.  |
| Pupil Premium  | Pupils who are disadvantaged (see row above) or are service children   |
| Eligible pupils  | Binary indicators have been added to the KS2 data to indicate whether pupils have an eligible result in each subject. These indicators are used to identify the pupils to be included in school and LA level calculations. <ul style="list-style-type: none"> <li>• For KS2 tests, they include levels 2-6, A, B, M, N, S, Q and T. Pupils with X are not included.</li> <li>• For KS2 TA, they include levels 1-6, A, D, M and W.</li> </ul>  |
| Valid pupils   | Binary indicators have been added to the KS2 data to indicate whether pupils have a valid result in each subject. These indicators are used to identify the pupils to be included in national calculations. <ul style="list-style-type: none"> <li>• For KS2 tests, they include levels 2-6, A, B, M, N, S, Q and T. Pupils with M, X or S are not included.</li> <li>• For KS2 TA, they include levels 1-6, A, D, M and W. Pupils with M are not included.</li> </ul>   |
| Achieved various levels in tests/TA                          | The expected level at KS1 is level 2 or above. Binary indicators have been added to the KS1 data to indicate whether pupils have achieved level 2 or above, level 2B or above and level 3 or above in each subject.<br>The expected level at KS2 is level 4 or above. Binary indicators have been added to the KS2 data to indicate whether pupils have achieved level 4 or above, level 5 or above and level 3 or below in each subject.  |
| Achieved various levels in reading, writing and mathematics. | Binary indicators have been added to the KS2 data to indicate whether pupils have achieved level 4 or above, level 5 or above and level 3 or below in all of reading, writing and mathematics.   |
| Progress measures  | Binary indicators have been added to the KS2 data to indicate whether pupils should be included in the progress measures and whether they have made the expected level of progress. Pupils need to have both KS1 and KS2 results to be included in the progress measures unless they achieved W, level 1 or level 6 at KS2. For more information, see <a href="http://www.education.gov.uk/schools/performance/primary_12/Progress_Measures_Guide_KS1-KS2_2012.pdf">www.education.gov.uk/schools/performance/primary_12/Progress_Measures_Guide_KS1-KS2_2012.pdf</a> . |
| Average point score (APS)                                    | The average points score relates aggregate number of points to the number of eligible pupils. The KS1 average point score includes reading, writing, maths and overall science only. The table below sets out how points have been allocated to each KS1 TA level.   |

|  |                             |             |
|--|-----------------------------|-------------|
|  | Working towards level 1 (W) | 3           |
|  | 1                           | 9           |
|  | 2C                          | 13          |
|  | 2B (2)                      | 15          |
|  | 2A                          | 17          |
|  | 3                           | 21          |
|  | 4                           | 27          |
|  | Absent (A)                  | Disregarded |
|  | Disapplied (D)              | Disregarded |
|  | Missing (M or blank)        | Disregarded |
|  | Unable (U – science only)   | Disregarded |

## Key Stage 4

A large number of variables are derived for publication in the KS4 Statistical First Release and in the Secondary School Performance Tables. A full list of Performance Tables derived variables can be found in the metadata section of the website, available via the following link:

<http://www.education.gov.uk/schools/performance/metadata.html>

Selected key variables that are used in the SFR are highlighted in the table below:

| Metafile heading | Metafile description   |
|------------------|--|
| TPUP             | Number of pupils at the end of Key Stage 4   |
| KS2APS           | Key Stage 2 Average Points Score of Key Stage 4 cohort   |
| PTPRIORLO        | Percentage of pupils starting Key Stage 4 in low prior attainment band   |
| PTPRIORAV        | Percentage of pupils starting Key Stage 4 in middle prior attainment band  |
| PTPRIORHI        | Percentage of pupils starting Key Stage 4 in high prior attainment band  |
| PT24EngPrg       | Percentage of pupils at the end of Key Stage 4 achieving expected level of progress between Key Stage 2 and GCSE English     |
| PT24MathPrg      | Percentage of pupils at the end of Key Stage 4 achieving expected level of progress between Key Stage 2 and GCSE mathematics |
| PTAC5EM          | Percentage of pupils achieving 5+ A*-C or equivalents including A*-C in both English and mathematics GCSEs                   |
| PTEBACC_E        | Percentage of Key Stage 4 pupils with entries in all English Baccalaureate subject areas                                     |
| PTEBACC          | Percentage of Key Stage 4 pupils achieving the English Baccalaureate   |



|              |   |
|--------------|---|
| PTEBACENG_E  | Percentage of pupils entering the English Bacculaureate English subject area  |
| PTEBACMAT_E  | Percentage of pupils entering the English Bacculaureate Maths subject area  |
| PTEBAC2SCI_E | Percentage of pupils entering the English Bacculaureate Science subject area  |
| PTEBACHUM_E  | Percentage of pupils entering the English Bacculaureate Humanities subject area   |
| PTEBACLAN_E  | Percentage of pupils entering the English Bacculaureate Language subject area   |
| PTEBACENG    | Percentage of pupils achieving the English Bacculaureate English subject area   |
| PTEBACMAT    | Percentage of pupils achieving the English Bacculaureate Maths subject area   |
| PTEBAC2SCI   | Percentage of entered pupils achieving the English Bacculaureate Science subject area   |
| PTEBACHUM    | Percentage of entered pupils achieving the English Bacculaureate Humanities subject area  |
| PTEBACLAN    | Percentage of entered pupils achieving the English Bacculaureate Language subject area  |
| PTL2BASICS   | Percentage of Key Stage 4 pupils achieving grades A*-C in both English and mathematics GCSEs  |
| TTAPSCP      | Total average (capped) point score per pupil  |
| PTAC5        | Percentage of pupils achieving 5+ A*-C or equivalent  |
| PTAG5        | Percentage of pupils achieving 5+ A*-G or equivalent  |
| PTANYQ       | Percentage of pupils achieving any qualifications   |
| PTFEML2      | % of pupils achieving English and Maths Skills at Level 2 (C+ at GCSE, AS, Level 2 Key Skills, Basic Skills and Functional Skills in English and maths) |
| PTFEML1      | % of pupils achieving English and Maths skills at Level 1 (G+ at GCSE, AS, Level 1 Key Skills, Basic Skills and Functional Skills in English and maths) |
| TTAPS        | Total average point score per pupil   |

## 16 - 18

The following derived fields align with those used for the 16-18 School and College Performance Tables. A range of new 16-18 indicators were introduced in the 2012 Performance Tables published in January 2013:

<http://www.education.gov.uk/cgi-bin/schools/performance/group.pl?qtype=NAT&superview=p16>

These changes were outlined in the 'Statement of Intent' published in July 2012:

[http://www.education.gov.uk/schools/performance/download/Statement\\_of\\_Intent\\_2012.pdf](http://www.education.gov.uk/schools/performance/download/Statement_of_Intent_2012.pdf)

The key SFR indicators are listed below and were published in 2011/12 SFR:

|   |  |
|---|--|
| KS5 students  | Students who meet the KS5 'trigger' criteria for inclusion in Level 3 point score calculations                   |
| Total size of entries                                     | Total size of student's entries  |
| Total point score of entries                              | Total point score of student's entries   |
| Average point score per student                           | Average Level 3 point score per trigger student in actual year group 13  |
| Average point score per entry                             | Average point score per Level 3 entry for trigger students in actual year group 13                               |
| Level 2 achievement                                       | Percentage of students achieving 2 or more passes of A level equivalent size                                     |
| AAB or higher achieved at A level                         | Percentage of students achieving AAB or more passes at GCE A level, Applied GCE A level and Double Award A level |
| AAB or higher achieved at A level (facilitating subjects) | Percentage of students achieving AAB or more passes at GCE A level in facilitating subjects.                     |
| Entry for an A level qualification                        | Student entered for GCE/Applied A level or Double Award in summer of reporting year                              |
| Achievement of A*/A in an A level qualification           | Percentage of students achieving 3 or more A*-A grades at GCE/Applied GCE A level and Double Awards              |

Further information on the wider set of 16-18 Performance Table indicators, please see: <http://www.education.gov.uk/schools/performance/metadata.html>

Future 'A level' SFRs may align further with planned changes in the 16-18 Performance Tables. The changes to the 2013 Performance Tables (to be published in January 2014) are outlined in 2013 Statement of Intent published in July 2013:

[http://www.education.gov.uk/schools/performance/download/Statement\\_of\\_Intent\\_2013.pdf](http://www.education.gov.uk/schools/performance/download/Statement_of_Intent_2013.pdf)

### **3.6 Data added from other sources**

#### School Type

The school types are taken from Edubase and are given as at 11 September at the start of the academic year. They are defined as follows:

Academy Sponsor Led - Sponsored academies are all-ability, state-funded schools established and managed by sponsors from a wide range of backgrounds, including high performing schools and colleges, universities, individual philanthropists, businesses, the voluntary sector, and the faith communities.

Academy - Schools that have chosen through Governing Body Resolution and application to the Secretary of State to become an academy under the academies Act 2010.

Free Schools - free schools are state-funded but have greater freedoms than local authority maintained schools. They are run by teachers and have freedom over the length of the school day and term, the curriculum and how they spend their money.

City Technology Colleges - Independent all-ability, non-fee-paying schools offering pupils the opportunity to study a curriculum geared, with the help of private sector sponsors, towards the world of work.

Local Authority maintained schools - Schools fully or partially under local authority control that are state-funded, mainly by the Dedicated Schools Grant.

Registered independent school - Any school which provides full time education for 5 or more pupils of compulsory school age, which is not state-funded or a non-state-funded special school.

Independent special school - Approved by the Secretary of State for Education. They are run on a not-for-profit basis by charitable trusts and normally cater for children with severe and/or low incidence special educational needs.

State-funded schools - Includes local authority maintained mainstream schools, academies, free schools, City Technology Colleges and state-funded special schools (excluding hospital schools, pupil referral units, alternative provision and independent schools).

State-funded mainstream - Includes local authority maintained mainstream schools, academies, free schools, City Technology Colleges (excluding all special schools, pupil referral units, alternative provision and independent schools).

All independent - Includes independent schools, independent special schools and non-state-funded special schools.

### School Phase

The school phase is derived from the school's statutory lowest and highest age of pupil. This is taken from Edubase and is given as at 11 September at the start of the academic year.

### Income Deprivation Affecting Children Index (IDACI)

IDACI is provided by the Department for Communities and Local Government (DCLG). The index is based on Super Output Areas (SOAs) in England based on 2001 census data. Each SOA is given a rank between 1 and 34,378 where 1 is the most deprived SOA.

IDACI is a subset of the Income Deprivation Domain of the Index of Multiple Deprivation (IoD). Each SOA is given a score showing the percentage of pupils aged under 16 that live in families that are income deprived, i.e. they are in receipt of certain benefits and their equivalised income is below 60% of median before housing costs. Further information about IDACI can be found at:

<https://www.gov.uk/government/publications/english-indices-of-deprivation-2010>

The IDACI bands used in these publications are based on 2010 IDACI scores. Care should be taken when comparing to IDACI band breakdowns for 2008, 2009 and 2010, which are based on 2007 IDACI scores. Care should also be taken when comparing to IDACI tables for 2007 and earlier, which are based on 2004 IDACI scores.

Following the 2011 Census, 2.6 per cent of OAs have been modified using the 2011 Census population data and a new set of OAs/SOAs now exist and are known as the 2011 OAs/SOAs. 1.1% of LSOAs are affected by the change. DCLG will not be revising the 2010 IoD. However guidance will be issued on how IoD can be approximated to the new LSOAs.

### Qualifications

For KS5 some additional information is added from the qualification discounting tables, such as 16 to 18 approval flags and KS5 equivalence fields (and other qualification specific information).

### Children Looked After (CLA)

The disadvantaged pupil breakdowns presented in KS1-KS4 SFRs are defined as pupils known to be eligible for FSM or are looked after children for more than 6 months. Information on Looked After Children is collected in the web-based SSDA903 return by local authorities in England. Information in the CLA database is collected at individual level and since 2005-06 includes the Unique Pupil Number (UPN) field. This data is collected annually between April and June for the previous financial year. Once the data has been collected and checked, an extract is produced which is sent to our matching contractors for linking to the NPD. The UPN is the main field used for matching purposes but other information about the child is also used such as date of birth, gender, ethnicity and responsible local authority.

Local authorities are required to update the database every year, including making amendments to previous years' records where there have been changes.

Further information on Looked After Children and the data items collected in the SSDA903 return can be found in the SFR

<https://www.gov.uk/government/publications/children-looked-after-by-local-authorities-in-england-including-adoption>

### **3.7 Disclosure Control**

The *Code of Practice for Official Statistics* requires that reasonable steps should be taken to ensure that all published or disseminated statistics produced by the Department for Education protect confidentiality. An 'x' indicates that a figure has been suppressed due to small numbers. Values of 1 or 2 or a percentage based on 1 or 2 pupils who achieved, or did not achieve, a particular level are suppressed. Values of 0 or a percentage based on 0 pupils achieving a particular level are also suppressed. Some additional figures have been suppressed to prevent the possibility of a suppressed figure being revealed. This suppression is consistent with the Departmental statistical policy which can be found at

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/190768/Confidentiality\\_Policy\\_v4.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/190768/Confidentiality_Policy_v4.pdf)

## **Process Maps**

Process maps for all data collections can be found by accessing the following link [process maps](#)

## **Annex**

The data and methodology described above are used in producing the following Statistical First Releases on pupil attainment.

### **Key Stage 1 & Phonics**

[Phonics screening check and national curriculum assessments at key stage 1 in England: 2012 - Publications - GOV.UK](#)

### **Key Stage 2**

[National curriculum assessments at key stage 2 in England: 2012 - Publications - GOV.UK](#)

[National curriculum assessments at key stage 2 in England: academic year 2011 to 2012 - Publications - GOV.UK](#)

### **Key Stage 3 & 4**

[Provisional GCSE and equivalent results and national curriculum teacher assessments at key stage 3 in England: academic year 2011 to 2012 - Publications - GOV.UK](#)

[Revised GCSE and equivalent results in England: academic year 2011 to 2012 - Publications - GOV.UK](#)

[GCSE and equivalent attainment by pupil characteristics in England: 2011 to 2012 - Publications - GOV.UK](#)

### **Key Stage 5**

[Provisional GCE or applied GCE A and AS levels and equivalent examination results in England: academic year 2011 to 2012 - Publications - GOV.UK](#)

[Revised A level and equivalent examination results in England: academic year 2011 to 2012 - Publications - GOV.UK](#)

## ENQUIRIES

Please contact Anneka Nelson-Girtchen if you have comments on the content or presentation of this release so that we can take account of your needs in future editions.

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