



Department  
for Education

# Attainment in primary schools in England:

## Quality and methodology information

**27 September 2018**

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# 1. Introduction

This document provides an overview of the data used in the production of the phonics, key stage 1 and key stage 2 statistical publication and the primary school performance tables.

It provides information on the data sources, their coverage and quality and explains the methodology used in producing the data including how it is validated.

It is based on the Office for National Statistics' [guidelines for measuring statistical quality](#).

# 2. About the output

National and local authority (LA) information on attainment of primary school pupils in England will be published in the following statistical publication in 2018.

- Phonics screening check and key stage 1 assessments: England 2018
- National curriculum assessments at key stage 2 in England, 2018 (interim)
- National curriculum assessments at key stage 2 in England, 2018 (provisional)
- National curriculum assessments at key stage 2 in England, 2018 (revised)

School level information about attainment at key stage 2 is published in the primary school [performance tables](#). School level results for key stage 1 and phonics are not published.

Primary school education is split into key stages as shown in figure 1.

**Figure 1: Age of child related to year group and key stage**

Key stage	1			2			
Year group	R	1	2	3	4	5	6
Age of child at end of year	5	6	7	8	9	10	11

Attainment is measured by statutory assessments against the standards set out in the [national curriculum](#) at the end of each key stage.

In addition to assessments at the end of each key stage, pupils in year 1 also take a phonics screening check. Any year 2 pupils who did not meet the standard or did not take the phonics check in year 1, (re)-take the check in year 2.

See annex A for more information on the national curriculum and statutory assessments in key stage 1 and key stage 2.

## Data sources

### Phonics

State-funded schools (including academies and free schools) are required to report pupil level phonics screening check results to their LA. The LA must then submit these results to the Department for Education (referred to from here onwards as 'the department') via COLLECT (Collections On-Line for Learning, Education, Children and Teachers - a system used by the department to collect data from schools, LAs and other organisations).

Independent schools cannot submit phonics screening check results.

## Key stage 1

State-funded schools are required to report KS1 teacher assessments to their LA; and the LA must then pass these results to the department via COLLECT.

Independent schools and non-maintained special schools can report KS1 teacher assessments if they wish to do so. If they choose to do so, they must submit the data via their LA and meet the same conditions (for example, to be subject to LA moderation) as state-funded schools.

## Key stage 2

Statutory testing and assessment for pupils in primary schools is the responsibility of the Standards and Testing Agency (STA), an executive agency of the department.

KS2 tests must be administered by state-funded schools, the STA organises test marking and the return of results to schools. KS2 teacher assessments are also collected by STA and the information is collated and passed on within the department. Independent schools, non-maintained special schools and pupil referral units may take part in the KS2 assessments if they wish to do so.

## Other data

The attainment data is combined with information on pupil characteristics taken from the school census. Details of this data are provided in a separate [quality and methodology document](#).

Information on school type and phase of education are taken from [Get Information About Schools \(GIAS\)](#). Definitions are given in annex C.

## How the output is created

Data on pupil attainment is collected from schools via a number of separate data collections. This information is linked with information on pupil characteristics, school characteristics and information on pupil prior attainment to produce the unamended (provisional) data in the [national pupil database](#) (NPD). A number of derived variables (see annex D) are added during this process. This data is then used to produce the provisional statistical publication.

Following publication of the provisional statistics, additional data such as that submitted after the initial deadlines or released following the completion of maladministration investigations and outcomes from KS2 marking reviews is added. The KS2 data is also checked by schools during the performance tables checking exercise.

The revised pupil attainment data is then linked again with information on pupil characteristics and prior attainment to produce the amended revised data in the NPD and all derived variables recalculated.

For KS2 this data is published in the revised statistical publication and the performance tables. Following publication of the performance tables, there is a short errata process where schools can inform us of any additional changes that should be made to the data. Following this process, the data is finalised and the NPD and the performance tables website updated. The final data is used to update the time series in the following year's statistics.

This process for each key stage is illustrated in the process maps in annex E.

## Relevance

This section describes the degree to which the statistics meet current and potential needs of the users.

## Key users

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Department for Education	<p>Used to monitor national standards of literacy and numeracy in primary school children in England. The national figures are used to determine whether standards are improving or declining.</p> <p>Data for sub-groups of the population are also analysed to inform departmental policies aimed at closing gaps in attainment.</p> <p>School level figures are used to identify schools where intervention may be needed.</p>
Ofsted	<p>Used as part of the background information to inform school inspections. For example, it enables inspectors to identify areas of the curriculum or groups of pupils where a school appears to be doing less well that would then form part of the focus during the inspection visit.</p>
Ofqual	<p>Used as part of the evidence it reviews on the setting and maintenance of standards in national assessments.</p>
Local authorities and Regional Schools Commissioners (RSCs)	<p>Use the national data and that for other LAs to set the attainment of their area into context.</p> <p>Use the school level information to hold maintained schools to account.</p>
Schools	<p>Used to evaluate their own performance against national standards and other local schools.</p> <p>Used to identify high performing schools with similar circumstances to their own that they can work with to improve their own standards.</p>
School governors	<p>Used to hold schools to account, to identify strengths and weaknesses and support school improvement.</p>
Teachers and head teachers	<p>Used to carry out analysis and self-evaluation, and to aid planning of school improvement strategies.</p> <p>Use the information to inform decisions about whether to apply for vacancies in particular schools and also as background information when preparing for interviews.</p>
Parents	<p>Used to compare their own children's performance to others in their school, LA and nationally.</p> <p>Used to hold their children's schools to account and identify areas where they feel the school needs to improve.</p> <p>Used to inform choice of a primary school for their child.</p> <p>Performance of schools in the local area is also a key consideration for parents and prospective parents when moving house.</p>
Others	<p>Researchers from this country and abroad. Others use the information to identify schools with particular levels of attainment that they may wish to market their services to.</p>

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A key strength of the data is that it is derived from an administrative data collection. This means that it can supply accurate data down to small geographical areas (school level). In addition, the data is matched to other administrative data held by the department (the school census) to provide detailed information on

sub-groups of the school population. Pupil level data from different key stages can also be matched to produce precise measures of pupil progress between one key stage and another.

However, the pupil counts for some groups, particularly at local authority or school level, can be small. In these cases, data is suppressed to protect the confidentiality of individuals and this can limit the usefulness of the data.

One of the main limitations is that the data only covers statutory assessments. In addition, the statutory assessments only cover a limited range of subjects and do not provide any information about attainment in other subjects such as music, history and modern foreign languages. Since the assessments are not statutory in independent schools, coverage of independent schools is limited to those what choose to participate in the assessments.

## Timeliness

Timeliness refers to the lapse of time between the period to which the data refer and the publication of the estimates.

The phonics screening check takes place in the third week of June.

Key stage 1 teacher assessments should be finalised by schools in early July and submitted to the department by 27 July.

Key stage 2 tests take place in the third week of May and schools are required to submit key stage 2 teacher assessments to STA by the end of June.

Provisional phonics and key stage 1 data, including breakdowns by characteristics are published in late September (27 September 2018): around 8 weeks after the deadline for submission of the data.

Interim key stage 2 national data are published on the Tuesday 10 July 2018, the same day that assessment results are released to schools. This is 8 working days after the deadline for submission of teacher assessments.

Provisional key stage 2 data are published in early September (4 September 2018) 10 weeks after the deadline for submission of teacher assessments.

Revised key stage 2 data including school level data and breakdowns by characteristics are published in mid-December: At this point, the data contains information about all pupil characteristics including disadvantage, outcomes of marking reviews and maladministration investigations.

During this period, the data are quality assured, matched with other data and processed to produce the statistical publication outputs.

## Punctuality

Punctuality refers to the time lag between the actual and planned dates of publication.

The proposed month of publication is announced on [gov.uk](http://gov.uk) at least twelve months in advance and precise dates are announced in the same place six months prior to publication. In the unlikely event of a change to the pre-announced release schedule, the change and the reasons for it would be announced.

The only occasion when any primary attainment publication has been delayed was in 2008. In 2008, there were problems with delivery of the national curriculum tests at key stage 2. Provisional key stage 2 data was published on schedule in August but publication of the revised data that was due in December 2008 was delayed until 1 April 2009.

### 3. Accuracy and reliability

Accuracy describes the closeness between an estimated result and the (unknown) true value.

#### Data coverage

##### Phonics

The target population for the phonics data collection is all year 1 pupils in state-funded schools and all year 2 pupils in state-funded schools who had not passed the phonics screening check in year 1 (including those who did not take it in year 1).

In 2018, the provisional phonics data taken after the deadline for submission contained data from 16,461 of the 16,519 expected schools (99.65%)

The high coverage of the target population means that we can be confident that the data is representative of pupils in state-funded schools. However, it may not be representative of all 6-year-old pupils since those in independent schools and those who are home-schooled are excluded.

LAs can submit further data (either additional data or amendments to that already submitted) after the initial deadline of the collection until the end of September. The collection is then closed and no further changes can be made.

There is very little change between the provisional and final datasets and the statistical release is produced based on the provisional data. In 2017, the provisional phonics data contained data from 16,424 of the 16,429 expected schools (99.97%). The final data contained data for 16,430 schools.

Any pupils who do not have a valid phonics outcome are excluded from the calculations and do not appear in the number of eligible pupils or in the outcome percentages. Valid results in the phonics screening check are:

Phonics outcome code	Description
Wa	Took the phonics screening check and met the required standard
Wt	Took the phonics screening check and did not meet the required standard
A	Absent
D	Did not take the phonics screening check
Q	Maladministration of the phonics screening check

Pupils with 'D' are included as we want to measure the percentage of all 6 year olds meeting the standard rather than of only those who took the check.

Steps are taken to minimise the number of pupils who are absent (for example those absent during test week can take the check the following week). Those who are absent are also included in calculations to encourage schools to ensure that all eligible pupils take the check where possible.

Pupils whose phonics screening check outcome was subject to maladministration are also included to ensure complete coverage of the cohort. In the 2018 provisional data, there were 2 pupils with maladministration recorded as their outcome. In the 2017 final data, there were 106 pupils with maladministration recorded as their outcome.

In addition to figures on the percentage of the cohort who meet the expected standard in the phonics screening check in year 1, we also publish the percentage of pupils who pass by the end of year 2. We do not publish figures for the percentage of those who take it in year 2 who meet the standard.

In the 2016 and 2017 phonics statistics, pupils with a valid phonics year 2 result but no KS1 result were excluded from the data. This affected 1,090 pupils in 2017 and 1,016 pupils in 2016. From 2018, these pupils are included in the statistics, consistent with the methodology prior to 2016. See annex D for a precise definition of the year 2 cohort.

### **Key stage 1**

The target population for the key stage 1 data collection is all pupils who are at the end of key stage 1. However, key stage 1 assessments are only mandatory for state-funded schools. In 2018, only 10 independent schools (out of approximately 1,300 independent schools with the appropriate age range) submitted data. Therefore, the data should not be considered representative of all key stage 1 schools but can be considered representative of state-funded schools.

In 2018, the provisional KS1 data contained records from 16,463 of the 16,515 expected schools (99.69%).

LAs can submit further data (either additional data or amendments to that already submitted) after the initial closure of the collection until the end of September. The collection is then closed and no further changes can be made.

There is very little change between the provisional and final datasets and the statistical release is produced based on the provisional data. In 2017, the provisional key stage 1 data contained data from 16,400 schools compared with 16,402 schools from the final data.

Any pupils who do not have a valid KS1 outcome for a subject are excluded from the calculations for that subject and do not appear in the number of eligible pupils or in the outcome percentages. For reading, writing and mathematics, the valid outcomes are:

- working at greater depth within the expected standard (GDS)
- working at the expected standard (EXS)
- working towards the expected standard (WTS)
- foundations for the expected standard (PKF)
- below the pre-key stage standard (BLW)
- absent (A)
- disapplied (D)
- maladministration (Q)

For science, the valid outcomes are:

- working at the expected standard (EXS)
- has not met the expected standard (HNM)
- absent (A)
- disapplied (D)
- maladministration (Q)

As with phonics, we include pupils with 'A', 'D' or 'Q' to ensure complete coverage of the cohort. In the 2018 KS1 data, there were 8 pupils with maladministration in any subject.

### **Key stage 2**

The target population for the key stage 2 data collection is all pupils who are at the end of key stage 2. However, key stage 2 assessments are only mandatory for state-funded schools. In 2018, 253 independent schools (out of approximately 1400 independent schools with the appropriate age range) took part in the



assessments. Therefore, we provide a national figure for state funded schools only and a national figure for all schools that participated in the assessments.

Schools must submit teacher assessment data for every pupil registered to sit a national curriculum test and those registered as working below the standard of the test or unable to access the test. Independent schools and non-maintained special schools participating in the assessment and reporting arrangements are also required to submit teacher assessments in subjects they have registered pupils for.

The provisional KS2 data is based on test and teacher assessment data provided to the department by STA in early July. It contains 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 the provisional 2018 data, 2,688 (less than 0.15%) test results were suppressed due to maladministration investigations. 343 results had been annulled due to confirmed maladministration and 163 were not available for reasons beyond the schools control. One test result was annulled due to pupils cheating. Teacher assessments had been submitted for 99.7% of pupils. They can therefore be considered representative of all schools that took the tests.

For key stage 2, the level of change between provisional, revised and final data is higher than for key stage 1. We produce a provisional statistical publication based on the provisional data covering headline national and LA information only. It does not contain any characteristics breakdowns (other than gender) as these are more subject to change, particularly at LA level.

We update this statistical publication with revised data and add characteristics breakdowns, later in the year when the school level information is published in the performance tables. Schools are able to apply for pupils to be discounted from their figures, if they have recently arrived from overseas and their first language is not English. Although these pupils will be removed from the revised school and LA figures, they remain included in the national figures so that these reflect the attainment of all pupils.

The revised KS2 data is based on test and teacher assessment data provided to the department by STA in late October. In the revised 2017 data, no test results were suppressed due to ongoing maladministration investigations, 1,308 results had been annulled due to confirmed maladministration and 76 were not available for reasons beyond the schools control. Five test results were annulled due to pupils cheating. Teacher assessments had been submitted for 99.9% of pupils. They can therefore be considered representative of all schools that took the tests.

There are a small number of further changes to the data following publication of the performance tables. The performance tables (national, LA and school level figures) are updated with these changes.

The final KS2 data is based on test and teacher assessment data provided to the department by STA in late January. In the final 2017 data, there were no test results suppressed due to maladministration investigations and 2,292 results annulled due to confirmed maladministration.

Any pupils who do not have a valid result for a subject are excluded from the calculations for that subject and do not appear in the number of eligible pupils or in the outcome percentages for that subject. Valid results for the national test figures are:

- achieved the expected standard (AS)
- not achieved the expected standard (NS)
- special consideration (CA)

- absent (A)
- maladministration (Q)
- working below the standard of the test (B)
- unable to access the test (U)
- just arrived (J)

Valid results for the national writing teacher assessment figures are:

- below the pre-key stage standard (BLW)
- foundations for the expected standard (PKF)
- early development for the expected standard (PKE)
- growing development for the expected standard (PKG)
- working towards the expected standard (WTS)
- working at the expected standard (EXS)
- working at greater depth within the expected standard (GDS)
- absent (A)
- disapplied (D)
- maladministration (Q)

For reading and mathematics teacher assessment, valid results are as for writing with the exception of working towards the expected standard (WTS) and working at greater depth within the expected standard (GDS) which are not used and the addition of has not met the expected standard (HNM) which is used for pupils who sat the test.

For science teacher assessment, valid results are:

- has not met the expected standard (HNM)
- working at the expected standard (EXS)
- absent (A)
- disapplied (D)
- maladministration (Q)

Further details of the codes used for teacher assessment can be found in Annex A and in [STA's guidance](#) for submitting teacher assessment data.

At LA and school level, pupils with pending maladministration (S), missing (M) and pupil took the test/was assessed in a previous year (P<sup>1</sup>) are also included. LA figures cover state-funded schools in England, including academies, free schools and state-funded special schools.

KS1-2 progress measures cover state-funded schools in England. The key stage 2 result used for the reading and mathematics progress measure is usually the pupil's test result. However, if the pupil is working below the standard of the test then their pre-key stage teacher assessment or below the standard of the pre-key-stage will be used instead. The writing progress measure only uses the writing teacher assessment. Pupils with missing key stage 1 results are excluded from the progress measures. Full details of the progress measures calculations can be found in the [primary accountability technical document](#).

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<sup>1</sup> Pupils with P will have the P replaced with their previous result if it could be found. If a previous result cannot be found, the pupils result will be left as P and treated as missing.

## Measurement error

Measurement error is the difference between the actual value of a quantity and the value obtained by a measurement. Repeating the measurement will reduce the random error caused by the accuracy of the measuring instrument but not any systemic error caused by incorrect calibration of the measuring instrument.

The following steps are taken to minimise measurement error in the assessments.

### Phonics

Clear [guidance](#) is provided to schools to ensure that the phonics screening check is administered consistently in all schools. Since 2014, the pass mark has not been made available to schools until after the completion of the check (in previous years, it was sent out with the test materials). This was to ensure that teachers could not be influenced by the pass mark when judging whether pupils had read each word correctly.

In addition, LAs carry out [monitoring visits](#) to at least 10% schools in their area, before, during and after the check period to ensure that they are following the security arrangements and administering the phonics screening check in accordance with the published guidance. They will inform STA of any irregularities in schools' assessment arrangements.

STA will investigate any matter brought to its attention relating to the accuracy or correctness of any child's check results. This can lead to changes to, or annulment of, results for a whole cohort, groups of children or individual children.

The phonics collection remains open for eight weeks after the initial collection deadline so that revised data can be submitted to correct any errors identified by schools or LAs after submission.

### Key stage 1

Clear [guidance](#) is provided to schools to explain how they should carry out assessments at the end of key stage 1. Schools must administer key stage 1 tests to the children during May. The tests are marked internally by teachers and the outcomes of the tests are used, alongside other evidence, to inform their teacher assessments.

In 2018, the [teacher assessment framework](#) was used to report teacher assessments. The [interim pre-key stage standards](#) were used to report assessments for pupils working below the standard of tests, but above the P scales.

To ensure that standards are consistent between schools, LAs moderate a sample of key stage 1 teacher assessments to ensure that they are appropriate and consistent with national standards. Each LA must carry out a [moderation](#) visit to at least a quarter of their schools each year and ensure 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 assessments must be 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. They will inform STA of any irregularities in schools' assessment arrangements.

STA will investigate any matter brought to its attention relating to the accuracy or correctness of any child's check results. This can lead to changes to, or annulment of, results for a whole cohort, groups of children or individual children.

The key stage 1 collection remains open for three months after the initial collection deadline so that revised data can be submitted to correct any errors identified by schools or LAs after submission.

## **Key stage 2**

Clear [guidance](#) is provided to schools regarding the administration of the key stage 2 tests, including instructions for keeping the test materials secure prior to the tests and storage of completed scripts until they are collected for marking.

LAs [monitor](#) the administration of the tests in the schools in their LA and make unannounced visits to at least 10 per cent of their schools, before, during and after the test period. STA representatives may also make monitoring visits.

The tests are externally marked by STA to ensure that marking is consistent between schools. Once the tests have been marked the national standard is set. Pupils who achieve exactly the national standard will have a scaled score of 100. After the national standard has been set, a statistical technique called 'scaling' is used to transform the raw score into a [scaled score](#). The scaled score runs from 80 to 120.

[Conversion tables](#) for translating raw scores into a scaled score for the 2018 tests were published on 10 July.

STA will ensure that standards in the tests will remain consistent from year to year. To do this, they will 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 standard setting meeting to demonstrate the impact of the decisions made but is not used as the basis for decision making. The standard setting process is observed by representatives from the teacher associations and unions.

National curriculum tests are designed to be as similar as possible from year to year, but slight differences in difficulty will occur between years. Scaled scores maintain their meaning over time so that two pupils achieving the same scaled score on two different tests will have demonstrated the same attainment. 100 will always represent the 'national standard' but the 'raw score' that equates to 100 might be different (though similar) each year.

After marking, schools can view scanned images of their pupil's tests scripts and request a [review](#) of the marking if they believe that there is a discrepancy between how questions have been marked and the published mark scheme. STA publish a [statistical publication](#) each year with data on the review process. In 2017, reviews were requested for 1.4% of test papers and less than 8.5% of these resulted in a change to the outcome awarded. Schools are only encouraged to apply for a review if they thought it would result in a change leading to a pupil reaching or not reaching the expected standard or a change of 3 or more marks to the raw score. Outcomes of reviews are not reflected in the provisional data but are included in the revised data.

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, individual children or individual tests.

There is also [guidance](#) to explain how key stage 2 teacher assessments in English reading, English writing, mathematics and science, should be produced and submitted to STA. As the writing teacher assessment is

used in the headline attainment measures, this is also subject to [moderation](#) by LAs. Procedures are similar to those used at key stage 1.

In 2018, the [teacher assessment framework](#) was used to report teacher assessments. The [interim pre-key stage standards](#) were used to report assessments for pupils working below the standard of tests, but above the P scales.

The key stage 2 teacher assessment collection remains open for three months after the initial collection deadline so that revised data can be submitted to correct any errors identified by schools or LAs after submission of data.

## Validation and quality assurance of source data

### Phonics and key stage 1

Once schools have finalised their phonics marks and key stage 1 teacher assessments, they must enter them into their management information system (MIS) which will already contain details of all pupils in each year group. The MIS will include a number of validation rules which check that the data entered is valid and alert the school to correct the data if not.

Once all results have been entered, the school will instruct the MIS to generate a standard file that they will transfer securely to the LA. The LA will check the data before forwarding it to the department using COLLECT. COLLECT also contains validation rules (similar to those in school MIS) which highlight 'errors' and 'queries' to the LA.

The LA must correct any errors before they can approve the data. 'Queries' highlight situations which are not usual but can occasionally occur (for example, the number of boys submitted by a school is more than 10 fewer than the expected number). Before the LA can approve the data, they must enter a note against these items to confirm that the data is correct.

#### Examples of validation rules

The phonics mark must be a number between 0 and 40

Pupils with an outcome of A (absent), D (did not take) or Q (maladministration) must not have a phonics mark

Each pupil must have a unique pupil number (UPN) in the correct format

Each pupil must have only one KS1 assessment for each subject.

The LA must also ensure that phonics data and KS1 teacher assessments are collected from every expected school.

The department operates a data collection helpline to assist LAs that are having difficulty submitting data. The helpline will also contact any LAs who they believe may be having problems submitting their data or issue a guidance note to all LAs if the same errors are repeated in many schools' data.

The department monitors the level of returns and the helpdesk contacts LAs with outstanding data as the submission deadline approaches.

If the volume of data submitted is below expected levels when we are due to take the cut of provisional data, we would analyse the data to determine whether it was sufficiently representative nationally and at LA level. Decisions would then be taken whether to extend the collection for a day or two (or longer if necessary though this would probably delay publication of the statistical publication) or to suppress data for any LAs where coverage was felt to be a particular issue.

Occasionally, more than one school may submit data for the same pupil (for example, if pupils change school during the summer term). In the 2018 phonics data, there were 34 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. Most duplicate cases are resolved when collected data is [matched](#) into the National Pupil Database.

## **Key stage 2**

Once schools have completed their KS2 tests, they are required to send their test materials and attendance registers to STA for external marking and data capture. In 2018, all the key stage 2 tests were marked on screen.

The test scripts are marked on screen if the script can be scanned, i.e. it is not damaged and is not a modified test (braille/modified large print/enlarged print). Scanned scripts are divided into 'clips' consisting of one or more items for marking, and can be assigned to different markers. The markers input the marks for all questions in a given item, in each clip, directly into ePen (the onscreen marking system) as they mark them on screen. ePen only allows markers to input marks in the permissible range for each item. When all items have been marked, the script is exported from ePen into a holding area. Whilst scripts are being scanned and marked, the process of matching scripts to children who were registered for the test is performed. A script result is only created by aggregating the individual question marks to produce the script total, when a script is matched to a pupil and all the marked script results are present in the holding area. For tests that contain multiple scripts, a subject level result is only created when all scripts are present. It is at this point that the result is introduced into the datafeed, which is transferred to STA.

In cases where a script cannot be scanned, it is put into an exception envelope and marked by a marker at the Central Marking Panel, and all marks are double-keyed. In cases where no test was sat the script result is derived from the attendance register code and this is double keyed by two operators to ensure its accuracy.

Every result is passed through a comprehensive result validation engine that ensures any errors are recorded. Validation is data driven using the values as listed in the national curriculum outcome codes table in annex A. In addition to basic field validation of permitted values, more complex results have specific cross-field validation to ensure multiple field consistency.

Checks are also carried out to make sure that where a script exists in one component of a test, the other components of the test are consistent (a script also exists or an absent code is present). For example, a child cannot have sat one component of the test and be recorded as 'B' (below the standard) in another component. In these cases, the inconsistent codes will be changed to absent and an absent overall code will be applied to that subject.

### **Examples of validation rules**

Checks on zero marks to ensure that it should not have been a non-sitting code such as 'B'

Checks to ensure special consideration and compensatory marks are applied correctly

Checks to ensure reviews are applied correctly

Occasionally, more than one school may register the same pupil for the test (for example, if pupils change school or are dually registered). The vast majority of these cases are resolved when test scripts and attendance registers are received. However, in a small number of cases this is not possible, normally where a pupil is working below the level of the tests. In these cases, STA contact the schools involved to establish which school the pupil was attending during test week and where the results should be assigned.

Further checks are also carried out on the results data before it is passed across to the department for use in the performance tables.

Teacher assessment data is collected from schools and LAs that have chosen to submit on behalf of their schools via NCA tools (a system used by STA to manage and collect information from schools about KS2 tests and teacher assessment). Schools and LAs can upload their data using a CTF extract from their MIS provider or input the data into a spreadsheet template, which includes the details of the children we are expecting data for.

The MIS will include a number of validation rules which check that the data entered is valid and alert the school to correct the data if not. NCA tools will validate this data on upload and provide schools and LAs with warning and error messages where appropriate to allow them to correct any issues.

#### **Examples of TA validation rules**

Identifying results that are not valid

Identifying cases where results are missing p-scales

Identifying duplicate records including duplicate UPNs provided by the school

Checks to ensure the number of children submitted equals the expected number of children

Teacher assessment data is downloaded from NCA tools and is passed through a result validation engine where invalid values are identified and the rows flagged to correct them if it is appropriate to do so. Each row contains the teacher assessment data as uploaded by the school for an individual child. If the row has no errors flagged then this data is then passed for matching to the KS2 test data into the datafeed.

Once the data has been validated, it is automatically matched to children using a matching algorithm that uses various combinations of UPN/DOB/name as well as the robust 'double-metaphone' pattern-matching algorithm. The matching is pessimistic in that a single match must exist in order for teacher assessment results to be linked to a child; if no match exists then a new child record is created in quarantine and this must be manually reviewed by STA and matched to a child in the datafeed if one exists

Some examples of the types of mismatches are due to duplicate records, UPN/name changes and typing errors made by the school. Occasionally a school may contact STA if they have provided teacher assessment data for a child that was not recorded at that school for the tests and the teacher assessment will only be included if they provide a valid reason as to why the child did not sit the test (usually because they were below the standard or absent on the day of the test).

The STA operates a helpline to assist LAs and schools that are having difficulty submitting data. The helpline will also contact any LAs and schools who they believe may be having problems submitting their data.

The STA monitors the level of returns and the helpdesk contacts LAs and schools with outstanding data as the submission deadline approaches.

KS2 test results are made available to schools on NCA tools on return of results day. In 2018, this was 10 July 2018. This data along with all matched teacher assessment data in the datafeed is then passed from STA to the department for use in the statistical publication and performance tables.

## Data Processing

### Phonics and key stage 1

Within the national pupil database (NPD), data on pupil's attainment from the phonics and key stage 1 data collections is linked with information on pupil's characteristics taken from the [school census](#). To enable this linking, records are matched, using fields such as surname, forename, date of birth, UPN, gender and postcode. This successfully matches around 60 to 75% of pupils. Additional, more complex, routines are then applied to match as many of the remaining pupils as possible, up to around 98%.

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. 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.

### Key stage 2

Key stage 2 assessment data received from STA are combined with information on pupil's characteristics from the school census and prior attainment by the department's contractor. Records are matched, using fields such as surname, forename, date of birth, UPN, gender and postcode. This successfully matches around 60 to 75% of pupils. Additional, more complex, routines are then applied to match as many of the remaining pupils as possible, up to around 98%.

Some pupils may take assessments in one subject early. The figures are calculated on a cumulative basis - pupils will only be included once they have taken assessments in all subjects. The published figures will include their result in the subject(s) they took early. If they take all subjects early, then they will be included in the year in which they took the last subject.

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 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 contractor's systems are programmed correctly.

The 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 (for example, in 2016, dummy scaled scores were derived from the 2015 test marks). 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.

As a further check of the accuracy of the underlying data, the key stage 2 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. Schools can also notify us of any other errors in the data such as errors in matching prior attainment results. Any changes requested are validated to ensure that they comply with the rules before being accepted. Schools are also able to apply for pupils to be discounted from their figures, if they have recently arrived from overseas and their first language is not English. We allow the removal of these pupils from the school and LA figures as they can have an impact on some schools figures (since some schools have significant numbers of such pupils). However, we continue to include these pupils in the national figures so that they reflect the attainment of all pupils.



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 statistical publication 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 that are received during the checking exercise and final data is produced.

### **Statistical publication production**

All data in the publication tables are produced by one person and quality checked by another. Key tables are dual run by two people independently. Any discrepancies in the data produced are discussed and more experienced staff involved as required to agree the correct figures. Additional checks are also carried out on the data produced.

#### **Examples of additional checks**

- Comparisons with previous figures to identify any large changes
- Check totals are consistent across tables
- Check patterns in the data are as expected
- Check figures against those produced for the performance tables

### **Disclosure Control**

The Code of Practice for Official Statistics requires us to take reasonable steps to ensure that our published or disseminated statistics protect confidentiality.

In the statistical first releases, 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 standard are suppressed. Some additional figures may be suppressed to prevent the possibility of a suppressed figure being revealed. This suppression is consistent with the [departmental statistical policy on confidentiality](#).

Figures for the Isles of Scilly and City of London are suppressed in the KS1 and phonics publication as these LAs have a single school and we do not publish school level information for key stage 1 or phonics. Similarly, results for these LAs are suppressed in the provisional key stage 2 publication but not in the revised key stage 2 publication. Regional eligible pupil figures are rounded to the nearest 10 so that it is not possible to derive figures for these LAs by summing the figures for the other LAs in the region.

In the school level data, any figures relating to a cohort of 5 pupils or fewer will be suppressed. This applies to sub-groups of pupils as well as the whole cohort, for example, if there were five boys and three girls in a school, we would not publish attainment for boys or girls separately but would publish attainment for all pupils as this is based on 8 pupils.

### **Reliability**

The extent to which an estimate changes over different versions of the same data.

#### **Phonics and key stage 1**

The key stage 1 and phonics publication is published based on provisional data as there is very little change between the provisional and final datasets (the only change being the submission of a small

amount of late data). The national figures typically show no change between provisional and final data. Table 1 shows the change in some key figures at national level over the last five years.

**Table 1: Change in national phonics and key stage 1 data**

		2012	2013	2014	2015	2016	2017	2018
% of pupils meeting the expected standard of phonics decoding by end of year 1	Provisional	58%	69%	74%	77%	81%	81%	82%
	Final	58%	69%	74%	77%	81%	81%	
% of pupils meeting the expected standard of phonics decoding by end of year 2	Provisional	-	85%	88%	90%	91%	92%	92%
	Final	-	85%	89%	90%	91%	92%	
% of pupils reaching the expected standard (or prior to 2016, achieving level 2 or above at the end of key stage 1) in reading	Provisional	87%	89%	90%	90%	74%	76%	75%
	Final	87%	89%	90%	90%	74%	76%	

Changes in the LA figures can be slightly larger. In 2017, 1 of the 150 LAs (excluding City of London and Isle of Scilly) had a change in the percentage of pupils reaching the expected standard at the end of key stage 1 in reading between provisional and final data. There were no changes in the LA figures of pupils reaching the expected standard in Phonics between provisional and final data.

### Key stage 2

The key stage 2 data is subject to greater change between provisional and revised data as the revised data contains:

- outcomes of the appeals process where schools ask for reviews for one or more of their pupils in the belief that a clerical error has been made or the mark scheme has not been correctly applied;
- changes resulting from the completion of maladministration investigations;
- changes resulting from requests from schools to remove pupils who have recently arrived from overseas.
- any additional or revised teacher assessments.

However, the national figures typically show no change between provisional, revised and final data, although occasionally there may be a change of +/- 1 percentage point. Table 2 shows the change in the headline measure over the last four years.

**Table 2: Change in key stage 2 headline measure 2016 to 2018**

% of pupils meeting the expected standard in reading, writing and mathematics	2016	2017	2018
Provisional	53%	61%	64%
Revised	53%	61%	
Final	53%	61%	

Again, changes in the LA figures can be slightly larger. In 2017, 91 of the 150 LAs (excluding City of London and Isle of Scilly) had a change in the percentage of pupils reaching the expected standard in reading, writing and mathematics between provisional and revised data. However, the majority of these changes were changes of 1 or 2 percentage points. Eight LAs had a change of 3 percentage points or greater. The largest change was 21 percentage points.

Changes in school level data can be even larger: in 2017, 3,036 of the 15,170 schools where a figure was published had a change in the percentage of pupils achieving the expected standard in reading, writing and mathematics between provisional and revised data. The largest change was 86 percentage points. As a result of the large level of change in these figures, school level results are not published based on provisional data.

Changes in LA and school level data between revised and final data are small – only 5 LA and 40 schools had a change in the percentage of pupils achieving the expected standard in reading, writing and mathematics between revised and final data in 2017.

## 4. Accessibility and Clarity

Accessibility is the ease with which users are able to access the data. It also relates to the format(s) in which the data are available and the availability of supporting information.

Clarity is the extent to which easily comprehensible metadata are available, where these metadata are necessary to give a full understanding of the statistical data.

The publication text is published in html and pdf format so that it is accessible to all users irrespective of their choice of software. Care is also taken to ensure that the publication meets accessibility guidelines. Key figures are highlighted in the text that draws out the key messages such as changes over time and differences between groups of pupils. Small tables or charts illustrating key figures are also included in the text.

Each publication is accompanied by formatted excel tables with clear titles which allow general users to find more detail than can be provided in the publication text. Any important limitations or inconsistencies in the data are mentioned in footnotes so that users do not have to refer to the text or this document. Where there are large numbers of tables, these are split into manageable sections (for example, national tables in one file, LA tables in a separate file) so that users do not need to download larger files than necessary for their needs.

Underlying data for all the tables and metadata describing that data is also provided in csv format so that users can load this into an analysis package of their choice.

The performance tables website provides a number of ways of searching for schools of interest (for example, by name of school, by town, by distance from town/postcode or all schools within a LA) and presents the data in a series of web pages showing different aspects of the data. The selected schools can be sorted by any measure if the user requires ranked data. Hover text is used on the website to provide fuller descriptions of the column headings and any abbreviations used.

Users can also download the data for all schools in either excel or csv format. Comprehensive metadata is provided for these files.

Any user wishing to conduct more detailed research or analysis may request an anonymised pupil level extract of the [national pupil database](#).

## 5. Coherence

Coherence is the degree to which the statistical processes, by which two or more outputs are generated, use the same concepts and harmonised methods.

We use the same methodology to produce the data within our publications and the performance tables. We also use a dataset produced at the same time for the performance tables and the revised publication. As a

result, the national and LA figures included in both the revised publication and the performance tables will match.

Test and teacher assessment provide complementary information about a pupil's attainment so we would not expect them to agree in every case (for example, a pupil may not perform as well as expected in the test due to feeling tired or distracted that day). However, we would expect there to be a high level of correspondence between them.

Table 3 and 4 summarise the level of correspondence between the test results and teacher assessment at pupil level in 2018. The shaded cells show pupils where the test and teacher assessment results are consistent. The tests and teacher assessments agree for 87% of pupils in reading and 89% of pupils in mathematics. The disagreement between them is largely due to pupils who were marked as having met the expected standard in the teacher assessment who failed to reach the standard on the tests.

**Table 3: Comparison of test and teacher assessments in reading (pupil level), 2018**

Teacher assessment	Test result		
	Did not sit test	Did not achieve the expected standard	Achieved the expected standard
BLW, PKF, PKE or PKG	14,510	7,931	873
HNM	1,980	76,368	19,373
EXS	57	50,299	446,819

Base: pupils with a test outcome and a teacher assessment

**Table 4: Comparison of test and teacher assessments in mathematics (pupil level), 2018**

Teacher assessment	Test result		
	Did not sit test	Did not achieve the expected standard	Achieved the expected standard
BLW, PKF, PKE or PKG	13,455	8,294	561
HNM	1,799	88,604	14,647
EXS	74	36,981	453,632

Base: pupils with a test outcome and a teacher assessment

The national percentage of pupils reaching the expected standard is lower when measured using test results than teacher assessments (75% and 80% respectively for reading, 76% and 79% for mathematics in 2018).

## 6. Comparability

Comparability is the degree to which data can be compared over time, region or other domain.

### Over time

There have been a number of changes to primary school assessment over time which can make comparisons over time difficult. These changes are listed in annex F. Please refer to the previous [quality and methodology document](#) for advice on comparisons over time

For KS2, the expected standard in 2018 can be compared to 2017 and 2016 - the first year that the new assessments were introduced. The exception to this is in writing TA where there have been changes since 2017. For more information see the [2017/18 writing TA frameworks](#). The expected standard in the last three academic years is higher and not comparable with the expected levels used in previous year's statistics. It would therefore be incorrect and misleading to make direct comparisons showing changes over time.

Similarly, at key stage 1 results for 2018 can be compared with 2017 with the exception of writing TA.

There have been no changes to the phonics screening check since its introduction in 2012 that affect the comparability of the data.

### Differences between school, LA and national level figures

LA and all state-funded schools national figures for phonics include the same pupils and so are directly comparable.

The figures published in the national key stage 1 tables include any results from independent schools but these are excluded from the LA figures. A national figure, which excludes pupils in independent schools and alternative provision (all-state-funded schools), is included in the LA tables for comparison purposes.

Similarly, the figures published in the national key stage 2 tables include any results from independent schools but results from these schools are excluded from the LA figures. There are also some differences in the pupils included in the national and school level figures. Pupils with 'pending maladministration' (S), 'missing' (M) and 'pupil took the test/was assessed in a previous year' (P<sup>2</sup>) are normally included in the school and LA level figures but are not included in the national figures. Similarly, where schools ask for overseas pupils to be discounted, these pupils will be removed from the school and LA figures but remain included in the national figures so that these reflect the attainment of all pupils. A national figure calculated on the same basis as the LA figures is included in the LA tables for comparison purposes.

### Across different types of school

Care needs to be taken when making comparisons across school types as schools can change type over time. For example, a comparison of the published figures for converter academies over time may be misleading because the number of converter academies has increased over this period so the same schools are not included each time. Any changes seen could be because the schools added into this category have different attainment to those which were already there, rather than that the results for these schools have improved or declined.

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<sup>2</sup> Pupils with P will normally have the P replaced with their previous result if it could be found. If a previous result cannot be found, the pupils result will be left as P and treated as missing.

Even when we restrict our comparisons to the same group of schools over time (for example, academies that have been open for 3 years), we need to be aware that different types of schools will have had different starting points and this may affect their ability to improve. For example, sponsored academies generally start with lower attainment so have lots of potential to improve, however, converter academies generally have higher levels of attainment so have much less room for improvement.

## With other parts of the UK

The Welsh Government publishes attainment data for schools in Wales. As in England, the national curriculum is divided into key stages and pupils are assessed at the end of key stage 1, 2 and 3 at ages 7, 11, and 14 respectively. Statutory assessment in Wales is by teacher assessments for all key stages. Further information is available on the [Welsh Government website](#).

The Scottish Government measures attainment nationally using the Scottish Survey of Literacy and Numeracy (SSLN), an annual sample survey of pupil attainment in primary and early secondary school. Further information is available on the [Scottish Government website](#).

Information on educational attainment for post-primary schools in Northern Ireland is available from the [Northern Ireland Statistics and Research Agency](#).

These assessments are not directly comparable with those for England.

## International comparisons

Pupils in England also take part in international surveys such as the Trends in International Mathematics and Science Study (TIMSS). This is a comparative international survey of mathematics and science achievement of 9-10 year olds and 13-14 year olds, carried out on pupils from a sample of schools.

Pupils in England also participate in the Programme for International Student Assessment (PISA), organised by the Organisation for Economic Co-operation and Development (OECD). This assessment aims to compare standards of achievement for 15 year olds in reading, mathematics and science, between participating countries. This study is based on pupils from a sample of schools.

[Results for 2011](#) were published for both of these studies on 11 December 2012. [2015 TIMSS](#) results were published in November 2016.

## 7. Contact us

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If from the media	Press Office News Desk, Department for Education, Sanctuary Buildings, Great Smith Street, London SW1P 3BT. 020 7783 8300
If non-media	Gemma Coleman, Education Data Division, Department for Education, Sanctuary Buildings, Westminster, London, SW1P 3BT. 0207 783 8239 <a href="mailto:primary.attainment@education.gov.uk">primary.attainment@education.gov.uk</a>

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## Annex A: The national curriculum

A new national curriculum was introduced in 2014 and pupils were assessed against the new curriculum for the first time in 2016.

The national curriculum covers a number of subject areas but not all subjects are covered by statutory assessments.

All children must be assessed in their final year of a key stage. 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. Some children, however, may be older or younger because they are not being taught with their chronological age group.

Some pupils may complete a key stage programme of study in one or more subjects early. In these cases, pupils are only included in the published figures once they have completed the key stage in all subjects. Their results from previous years in the subjects taken early will be included with the current year data.

### Key stage 1

At the end of key stage 1, pupils take national curriculum tests in reading and mathematics. There is also an optional grammar, punctuation and spelling test. These tests are internally marked by teachers and used, alongside other evidence, to produce teacher assessments in reading, writing and mathematics. Teachers are also required to assess pupil's ability in science. In 2018, schools were not required to administer the KS1 grammar, punctuation and spelling test or to use the result as part of their writing teacher assessment.

Only the key stage 1 teacher assessments are submitted to the department. The table below shows the interim teacher assessment and interim pre-key-stage standards that were used to report teacher assessments in 2018.

#### Key stage 1 teacher assessment outcome codes

##### Reading, writing and mathematics

BLW	Below the pre-key stage standard
PKF	Foundations for the expected standard
WTS	Working towards the expected standard
EXS	Working at the expected standard
GDS	Working at greater depth within the expected standard
A	Absent
D	Disapplied
Q	Maladministration

##### Science

HNM	Has not met the expected standard
EXS	Working at the expected standard
A	Absent
D	Disapplied
Q	Maladministration

### Key Stage 2

At key stage 2, there are statutory externally marked tests in reading; grammar, punctuation and spelling; and mathematics.

The pupil's raw test score will be translated into a scaled score using a [conversion table](#). The scaled score runs from 80 to 120 and a scaled score of 100 represents the expected standard. The expected standard is higher than in previous years, roughly equating to level 4b rather than level 4.

Scaled scores maintain their meaning over time so that two pupils achieving the same scaled score on two different tests will have demonstrated the same attainment. The standards underpinning the scale will be maintained as long as there are no large-scale changes to what the tests cover. The standard set in 2016 will be maintained in subsequent years. Schools must also provide teacher assessments for reading, writing, mathematics and science. The table below shows the interim teacher assessment and interim pre-key-stage standards that were used to report teacher assessments in 2018.

#### Key stage 2 teacher assessment outcome codes

##### Writing

BLW	Below the pre-key stage standard
PKF	Foundations for the expected standard
PKE	Early development for the expected standard
PKG	Growing development for the expected standard
WTS	Working towards the expected standard
EXS	Working at the expected standard
GDS	Working at greater depth within the expected standard
A	Absent
D	Disapplied
M	Missing
Q	Maladministration

##### Reading and mathematics

BLW	Below the pre-key stage standard
PKF	Foundations for the expected standard
PKE	Early development for the expected standard
PKG	Growing development for the expected standard
HNM	Has not met the expected standard
EXS	Working at the expected standard
A	Absent
D	Disapplied
M	Missing
Q	Maladministration

Note PKF, PKE and PKG should only be used for pupils not sitting the test. HNM should only be used for pupils sitting the test.

##### Science

HNM	Has not met the expected standard
EXS	Working at the expected standard
A	Absent
D	Disapplied
M	Missing
Q	Maladministration

Since 2010, national attainment standards in science have been measured using a statutory externally marked science test in a sample of schools. Between 2010 and 2012, this was an annual test. From 2014, there was a new sample [science test](#) that takes place every two years. [Results](#) from the 2014 test were published in February 2016. There is no science sampling for the 2017 to 2018 academic year.

The majority of the published KS2 figures are based on either test results or teacher assessments rather than a combination of the two. The exception is the progress measures where the key stage 2 teacher assessments are used for those pupils working below the standard of the test.



## Phonics screening check

Pupils in year 1 must also take a phonics screening check. Any year 2 pupils who did not meet the standard in year 1 or did not take the check in year 1, must re-take the check in year 2.

### Phonics screening check

Wa	Took the phonics screening check and met the required standard
Wt	Took the phonics screening check and did not meet the required standard
A	Absent
D	Did not take the phonics screening check
Q	Maladministration

## Annex B: Floor standard and coasting schools

### Floor standard

The floor standard is the minimum standard for pupil attainment and/or progress that the Government expects schools to meet.

In 2018, a school will be above the floor if:

- at least 65% of pupils meet the expected standard in English reading, English writing and mathematics; **or**
- the school achieves sufficient progress scores<sup>3</sup> in **all three** subjects. At least -5 in English reading, -5 in mathematics and -7 in English writing<sup>4</sup>.

To be above the floor, the school needs to meet either the attainment **or** all of the progress element.

The attainment element is a combined measure. This means an individual pupil needs to meet the expected standard in reading, writing and mathematics, in order to be counted towards the attainment element.

To meet the progress element a school needs to have sufficient progress scores in reading, and writing, and mathematics. There is no measure of 'sufficient progress' for individual pupils.

The progress scores a school needs in each subject in order to meet the progress element of the floor standard are outlined in the [primary accountability technical document](#).

As in previous years, there are some types of schools and particular circumstances in which the floor standard will not apply.

The floor standard will not apply to infant schools, special schools, independent schools, pupil referral units, alternative provision or hospital schools.

Schools will be excluded from the 2018 floor standards where:

- there are fewer than 11 eligible pupils in their year 6 cohort
- fewer than 50% of pupils have key stage 1 assessments
- a figure is not published for any of the floor standard measures due to small numbers or other reasons.

Closed schools, including those which closed during the latest academic year and reopened as a sponsored academy<sup>5</sup>, are also excluded from the floor standard.

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<sup>3</sup> The performance tables publish progress data to 1 decimal place and the definition of floor standards and coasting schools are defined to this level of accuracy

<sup>4</sup> If the school has one progress score that is less than sufficient in one subject, the school will only be below the floor if the progress score for that subject is significantly below average - the upper band of its confidence interval is below zero

<sup>5</sup> Schools which have become converter academies during the 2017 to 2018 academic year are treated as continuing schools and are included in the floor standard calculations.

## Coasting schools

The coasting definition is based on a three years of data, using the same performance measures that underpin the floor standards. In line with regulations<sup>6</sup>, in 2018 a primary school will fall within the coasting definition if, based on revised data for all of 2016, 2017 and 2018:

- fewer than 85% of pupils achieved the expected standard at the end of primary school; and
- average progress made by pupils was less than -2.5 in English reading, -2.5 in mathematics or -3.5 in English writing.

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<sup>6</sup> <http://www.legislation.gov.uk/id/uksi/2017/9>

## Annex C: Further detail on school characteristics

This section provides further detail on the school type which is taken from [GIAS](#). School type in the statistical publications and performance tables are shown as at 11 September at the start of the academic year.

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 Converter	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 School	Free Schools are all-ability state-funded schools set up in response to what local people say they want and need in order to improve education for children in their community. They have the same legal requirements as academies and enjoy the same freedoms and flexibilities.
City Technology College (CTC)	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.
LA maintained school	Schools fully or partially under LA control that are state-funded, mainly by the Dedicated Schools Grant. These include community schools, foundation schools, voluntary aided school and voluntary controlled schools and also LA maintained special schools.
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. This group includes non-maintained special schools.
State-funded school	Includes LA maintained 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 schools	Includes LA maintained mainstream schools, academies, free schools, City Technology Colleges (excluding all special schools, pupil referral units, alternative provision and independent schools).
State-funded special schools	Includes LA maintained special schools, academy sponsor led special schools, academy special schools and special free schools.
All independent	Includes independent schools, independent special schools and non-maintained special schools.

Alternative provision (AP)	Education arranged by local authorities for pupils who, because of exclusion, illness or other reasons, would not otherwise receive suitable education; education arranged by schools for pupils on a fixed period exclusion; and pupils being directed by schools to off-site provision to improve their behaviour.
Pupil referral unit (PRU)	A pupil referral unit is a type of alternative provision. They are local authority establishments which provide education for children unable to attend a mainstream school.

Information on the phase of education covered by the school is derived from the school's statutory lowest and highest age of pupils taken from GIAS. These are shown as at 11 September at the start of the academic year. Only mainstream schools are included in the data broken down by the phase of education since special schools are more likely than mainstream schools to be all-through schools.

For key stage 1 and phonics, schools are categorised into infant schools (those with highest statutory pupil age of 7), primary schools (those with highest statutory pupil age between 8 and 11) and other schools (those with highest statutory pupil age greater than 11).

For key stage 2, schools are categorised into primary schools (those with lowest statutory age below 7 and highest statutory age of 11), junior schools (those with lowest statutory age of 7 or above and highest statutory age of 11), middle schools (middle deemed Primary and middle deemed Secondary) and other schools (those with highest statutory age greater than 11: this category includes all-through schools).

Information is also broken down by the school cohort size, which is based on the number of eligible pupils in the school's end of key stage cohort for KS2 and KS1. Again, only mainstream schools are included in this breakdown since special schools are more likely to have small cohorts. Information is also broken down by religious character for KS2, KS1 and phonics.

## Annex D: Derived variables

The following derived variables are added to the pupil data.

Pupil included in end of year 2 phonics results	<p>Data for the year 2 cohort is produced by matching the year 2 phonics results from the current year with key stage 1 results for the current year and year 1 phonics results from the previous year. Pupils are included in the year 2 figures if:</p> <ul style="list-style-type: none"> <li>• they have a valid year 2 phonics result from the current year; or</li> <li>• they have a valid year 1 phonics result from the previous year and they have a valid key stage 1 result in the current year.</li> </ul> <p>A binary indicator has been added to the KS1 NPD to indicate whether pupils should be included in figures for year 2 phonics.</p>
Combined phonics result	<p>If pupils have a result for both year 2 and year 1, the year 2 result is used (even if the year 1 result suggests that the pupil did not need to retake the check in year 2). Where pupils have a valid year 2 phonics result, the LA and school type associated with that result is used. Where they do not have a valid year 2 result, the LA and school type from the key stage 1 record is used. This is so that pupils who have moved schools between year 1 and year 2 are included under their year 2 school.</p>

Pupil included in key stage 1 results	<p>A small number of pupils have more than one phonics record in either year 1 or year 2. When this data is matched into the KS1 NPD, this can result in some pupils having two records in the KS1 NPD even though they only have one set of KS1 assessments.</p> <p>A binary indicator has been added to the KS1 NPD to indicate whether pupils should be included in KS1 figures so that these duplicate records can be consistently removed.</p>
Valid pupils at KS2	<p>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.</p> <ul style="list-style-type: none"> <li>• For KS2 tests, they include AS, NS, CA, A, B, Q, U and J. Pupils with M, X or S are not included.</li> <li>• For KS2 TA, they include BLW, PKF, PKE, PKG, HNM, WTS, EXS, GDS, A, D and Q (where these are allowable codes for that subject). Pupils with M are not included.</li> </ul>
Eligible pupils at KS2	<p>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.</p> <ul style="list-style-type: none"> <li>• For KS2 tests, they include AS, NS, CA, A, B, M, S, Q and T.</li> <li>• For KS2 TA, they include BLW, PKF, PKE, PKG, HNM, WTS, EXS, GDS, A, D, M and Q (where these are allowable codes for that subject).</li> </ul>
Achieved the expected standard and achieved a high score	<p>The expected standard in the tests is a scaled score of 100. A high score is a scaled score of 110 or above.</p> <p>Binary indicators have been added to the KS1 data to indicate whether pupils have achieved the expected standard in each subject.</p> <p>Binary indicators have been added to the KS2 data to indicate whether pupils have achieved the expected standard, or have achieved a high score in each subject.</p>
Achieved the expected standard and achieved a high standard in reading, writing and mathematics	<p>Binary indicators have been added to the KS2 data to indicate whether pupils have achieved the expected standard, or have achieved a high standard in all of reading, writing and mathematics.</p> <p>The reading and mathematics results used are the test results. The writing result used is the teacher assessment.</p>
Progress measures	<p>Indicators have been added to the KS2 data to indicate whether pupils should be included in the progress measures, the prior attainment group to which they belong, and their progress score.</p> <p>Pupils need to have both KS1 and KS2 results to be included in the progress measures.</p> <p>The KS2 result used for most pupils for reading and mathematics will be their test result. However, the pre-key stage teacher assessments or below the standard of the pre-key stage will be used where pupils have not sat the test. The writing progress measure only uses the writing teacher assessment.</p>

Full details of the progress measures methodology can be found in the [primary accountability technical document](#).

KS1 average point score (APS)

From 2016, average points score were no longer published at KS1. However, pupils in the KS1-2 progress measures will have KS1 results from earlier years. The average of their reading, writing and mathematics (double-weighted) point scores is used to allocate them to a prior attainment group.

**KS1 point scores**

4	27
3	21
2a	17
2b	15
2c	13
1	9
W	0.25 - 3

The table sets out how points have been allocated to each KS1 TA level (any other results are disregarded). See the [primary accountability technical document](#) for details of the points awarded to those pupils with W.

If any pupils have no point score for one of more subjects, the APS will be calculated from the remaining subjects.

No decision has yet been made on how to allocate pupils to prior attainment groups for KS1-2 progress measures from 2020 when KS1 APS will no longer be available.

Low/middle/high prior attainment

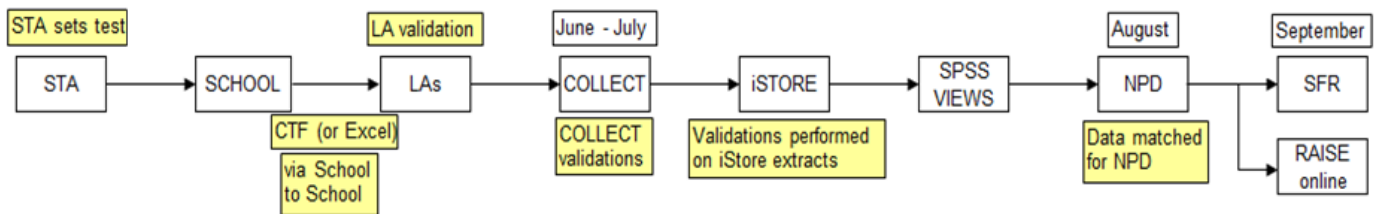
Prior attainment bands for KS2 are derived from the KS1 APS as follows:

- Low attaining: below level 2 at KS1 (KS1 APS < 12);
- Middle attaining: at level 2 at KS1 (KS1 APS >= 12 but <18);
- High attaining: above level 2 at KS1 (KS1 APS >= 18).

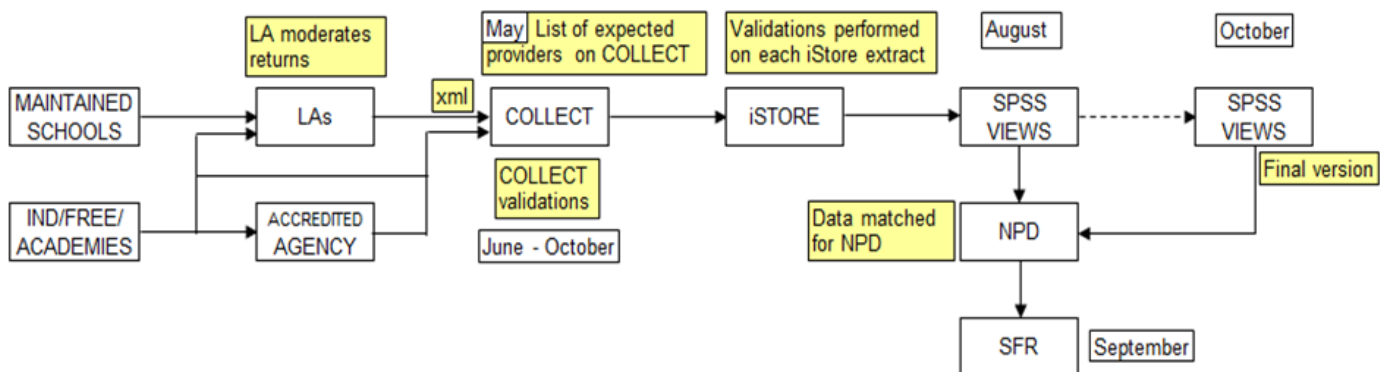
Any pupils without KS1 assessments are excluded from these figures.

## Annex E: Process maps

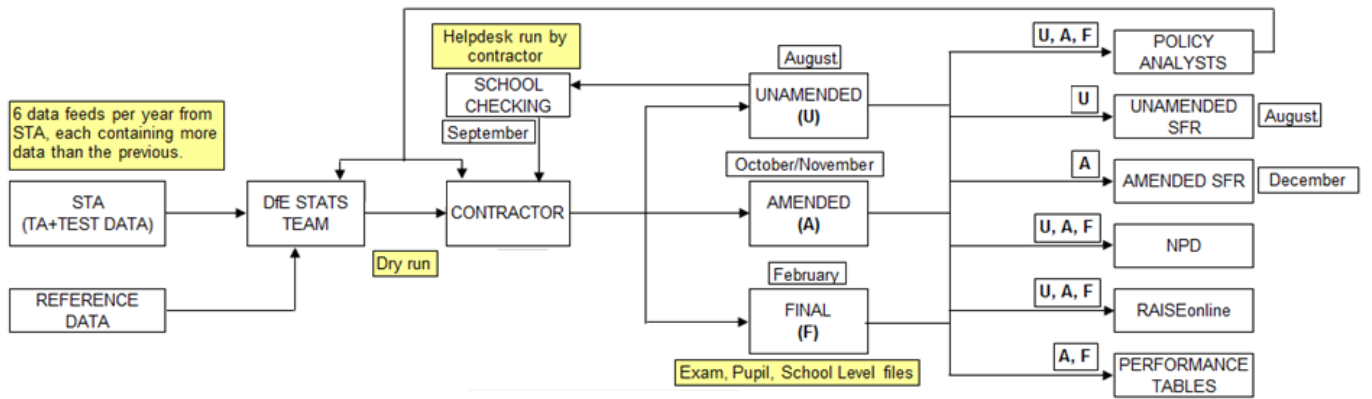
### Phonics



### Key stage 1



## Key stage 2





## Annex F: Timeline of changes in primary assessment

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1988	National curriculum introduced.
1990	First national curriculum tests for pupils at the end of key stage 1 (7 year olds).
1994	First national curriculum tests for pupils at the end of key stage 2 (11 year olds).
1996	Publication of the first primary school performance tables for pupils. The tables showed the achievement of pupils in English, mathematics and science tests and teacher assessments at the end of key stage 2.
1999	Key stage 2 teacher assessments dropped from performance tables.
2002	Foundation stage profile introduced in schools for pupils aged 3 to 5 years.
2003	Data on KS1-2 value added (VA) was included in the performance tables.
2005	Schools were no longer required to report both test results and teacher assessments for pupils at the end of key stage 1 – they only needed to report teacher assessments.
2007	KS1-2 value added data was replaced with contextualised value added (CVA) in the performance tables.
2008	Removal of the borderlining procedure (the process of checking test scripts that fall just below level thresholds) in the marking process.  Delay in the release of results of the key stage 2 test results to schools which led to the Sutherland enquiry.
2009	Last year of key stage 2 science test for all pupils.  Introduction of progress measures in mathematics and English to the performance tables.
2010	Mathematics single level tests pilot.  Introduction of annual science sample test.  Approximately 25% of schools failed to take part in the tests as a result of industrial action.  Key stage 2 teacher assessments re-introduced to the performance tables (in addition to test results).
2011	Single level tests dropped.  Progress measures methodology revised so that the same methodology was used in both the performance tables and the statistical publications.  New value added measures introduced to the performance tables to replace CVA.

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2012	<p>Statutory phonics screening check for all year 1 pupils in state-funded schools in England introduced.</p> <p>Externally marked writing tests were 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.</p> <p>First collection of separate reading and writing teacher assessments.</p> <p>Introduction of optional level 6 tests.</p> <p>Final year of annual science sample test.</p>
2013	<p>Re-take of phonics screening check for pupils in year 2 who failed to achieve the required standard in year 1 introduced.</p> <p>Introduction of grammar, punctuation and spelling test.</p> <p>Reporting of overall English replaced with reading and writing results separately.</p> <p>Introduction of separate reading and writing progress measures.</p>
2014	<p>The phonics threshold mark was not communicated to schools in advance of the phonics screening check as it had been in previous years.</p> <p>Calculators were not allowed in any of the level 3-5 mathematics tests. In previous years, they were allowed for paper 2.</p> <p>Minor changes to the timing of the reading test - instead of being given 15 minutes reading time and 45 minutes to answer the questions, children had a total of one hour to read the texts and complete the questions.</p> <p>Introduction of new science sample test every two years.</p>
2015	<p>Changes to moderation arrangements at KS1 to ensure that 50% of infant schools were moderated each year.</p> <p>All KS2 tests were marked on screen (previously reading and mathematics tests were marked on paper).</p>
2016	<p>Assessments are based on the new national curriculum. National curriculum levels are no longer used.</p> <p>New tests for key stage 1 and key stage 2 introduced using scaled scores.</p> <p>Teacher assessments are based on the interim teacher assessment framework and the interim pre key stage standards. They have moved from a 'best fit' judgement', where pupils could compensate for poor performance in one area of the curriculum by strong performance in another, 'to 'secure fit'', where all statements within the standard need to be achieved.</p> <p>The expectations for pupils at the end of key stage 1 and key stage 2 were raised to be broadly equivalent to the old level 2b and level 4b respectively.</p>
2018	<p>Changes made within the <a href="#">2017/18 writing TA frameworks</a> mean that judgements in 2018 are not directly comparable to those made using the previous interim frameworks in 2016 and 2017.</p>

## Annex G: Glossary and abbreviations

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Average scaled score	The average scaled score is calculated as the mean scaled score of all pupils awarded a scaled score. Pupils who did not take the test or took the test but did not receive a scaled score are excluded.
Checking exercise	In September each year, schools are asked to check the provisional KS2 data that we hold for their school during the performance tables checking exercise. The data is uploaded to a secure website and schools can inform us via this website of any pupils that are included in their school in error, or of any missing pupils. They can also notify us of any other errors in the data such as errors in matching prior attainment results and apply for pupils to be discounted from their figures, if they have recently arrived from overseas and their first language is not English. Any changes requested are validated to ensure that they comply with the rules before being accepted.
COLLECT	Collections On-Line for Learning, Education, Children and Teachers - a system used by the department to collect data from schools, LAs and other organisations.
GIAS	GIAS is a register of educational establishments in England and Wales, maintained by the department. It provides information on establishments providing compulsory, higher and further education.  The information included is provided from the establishments themselves and also from LAs and teams within the department.
Expected standard	The expected standard in the tests corresponds to a scaled score of 100.
Final data	Final KS1 and phonics data is available in November.  Final KS2 data is available in March following the errata period. The performance tables are updated with this data.
Floor Standard	The floor standard is the minimum standard for pupil attainment and/or progress that the Government expects schools to meet.  In 2018, a school will be above the floor if: <ul style="list-style-type: none"><li>• at least 65% of pupils meet the expected standard in reading, writing and mathematics; or</li><li>• the school achieves sufficient progress scores in all of reading, writing and mathematics: at least -5 in English reading, -5 in mathematics and -7 in English writing.</li></ul> To be above the floor, the school needs to meet either the attainment or all of the progress elements.
GPS	Grammar, punctuation and spelling. Pupils take a test of grammar, punctuation and spelling at the end of key stage 1 and key stage 2.
High score	A high score in the tests is a scaled score of 110 or above.
KS1	Key stage 1. This covers year 1 and year 2 in primary schools. Pupils are normally 6 or 7 years old at the end of key stage 1.

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KS2	Key stage 2. This covers years 3 to 6 in primary schools. Pupils are normally 10 or 11 years old at the end of key stage 2.
LA	Local authority
Maladministration	<p>Maladministration refers to any act that:</p> <ul style="list-style-type: none"> <li>• affects the integrity, security or confidentiality of the national curriculum assessments</li> <li>• could lead to results and/or outcomes that don't reflect pupils' unaided work or actual abilities.</li> </ul>
NCA Tools	Schools and LAs use the <a href="#">NCA tools</a> website to support administration of the national curriculum tests, including the phonics screening check, and submission of key stage 2 teacher assessments.
National Pupil Database (NPD)	The NPD contains detailed information about pupils in schools and colleges in England. It includes test and exam results, prior attainment and progression at different key stages and also includes information about pupils' characteristics.
Phonics screening check	<p>The phonics screening check is designed to confirm whether pupils have learnt phonic decoding to an appropriate standard. It will identify pupils who need extra help to improve their decoding skills. The check consists of 20 real words and 20 pseudo-words that a pupil reads aloud to the teacher.</p> <p>Pupils in year 1 (age 5 or 6) must take the phonics screening check. Any year 2 pupils who did not meet the standard in year 1 or did not take the check in year 1 must retake the check in year 2.</p>
Performance tables	Primary school performance tables are published in December of each year. Secondary school and post-16 performance tables are published in January. They give information on the achievements of pupils in primary, secondary and 16-18 provision in schools and colleges, and how they compare with other schools and colleges in the Local Authority (LA) area and in England as a whole.
Progress measures	<p>KS1-2 progress measures for 2016 onwards are based on a value added methodology. Pupils are grouped according to their prior attainment at KS1. Their KS2 attainment is compared to the average KS2 attainment for all pupils nationally who are in the same prior attainment group.</p> <p>Pupil progress scores are then averaged to give a figure for the average progress made by pupils within a school. A progress score of zero indicates that the school has made average progress, below zero that they have made less than average progress and above zero that they have made more than average progress.</p> <p>There are separate progress measures in reading, writing and mathematics.</p>
Provisional data	Provisional phonics and KS1 data is published in September of each year and provisional KS2 data is published in August/September each year. The provisional data is subject to change though the impact on national data is usually minimal.

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Reviews	If schools believe that the mark scheme has not been correctly applied or a clerical error has been made, they may ask for a paper to be re-marked. This may result in a change to the mark or scaled score awarded.
Revised data	Revised KS2 data is published in December each year. This updates the national and local authority information published in the provisional publication and also includes school level information in the performance tables.
Special consideration	Pupils may be awarded <a href="#">special consideration</a> if their performance in the key stage 2 tests has been affected by extremely distressing circumstances at the time of the tests. If special consideration is awarded, the pupil's scaled score will be increased by 3 for accountability purposes.
STA	Standards and Testing Agency
TA	Teacher Assessment
Threshold measures	'Threshold measures' refer to any figures where we show the percentage of pupils who have achieved a particular standard in a subject or combination of subjects, for example, the percentage achieving the expected standard in reading, writing and mathematics.

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Reference: Key stage 1 & Phonics provisional publication 2018



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