# Primary school accountability in 2018

## A technical guide for primary maintained schools, academies and free schools

**September 2018**

# Contents

# Summary

## About this guidance

This guide explains the primary accountability measures, including how a school's progress scores are calculated.

Schools received their own provisional progress scores from 3 September 2018. Annex B of this guidance provides the provisional national distribution of schools' progress scores in 2018 to help schools interpret and contextualise their own provisional scores.

No school will be confirmed as being below the floor or coasting in 2018 until December, when schools' performance tables are published. Further statistical information on primary progress scores, including the number and percentage of schools below the floor in 2018, will be available on GOV.UK from December 2018 when revised data are published.

For 2018, the assessments used to measure the progress that schools help their pupils achieve between key stage 1 and key stage 2 are:

- key stage 1 results in English reading, English writing and mathematics teacher assessments, that took place in summer 2014, when the 2018 year 6 cohort were aged 7; and

- key stage 2 results in English reading and mathematics tests, reported as scaled scores, and the English writing teacher assessments, that took place in summer 2018.

## Updates to the previous guidance

This September 2018 update to the guide includes information on:

- the re-introduction of three-year averages for attainment measures for primary schools;

- refinement to the methodology to reduce the disproportionate effect that a small number of extremely negative scores can have on a school's average progress; and

- a summary of the new statutory framework for teacher assessment.

It also clarifies the Government's policy on schools falling below the floor or coasting standards in light of the Secretary of State for Education's recent speech on his vision for a clearer school accountability system.[1]

## Expiry or review date

This guide will next be reviewed in December 2018.

## Who is this guidance for?

This guide is for:

- school leaders, school staff and governing bodies in all primary schools, including maintained schools, academies, alternative provision, free schools and special schools;
- local authorities; and
- multi-academy trusts (MATs).

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[1] [SoS vision for clearer school system](#).

# Primary school accountability measures

There will continue to be a range of forms of accountability in place for primary schools, including published data and school inspection.

## 2018 performance tables

The headline measures, which will appear in the performance tables in December 2018, will include attainment and progress measures. These are:

- the percentage of pupils achieving the 'expected standard' in English reading, English writing and mathematics at the end of key stage 2

- the pupils' average scaled score:

    - in English reading at the end of key stage 2

    - in mathematics at the end of key stage 2

- the percentage of pupils who achieve at a higher standard in English reading, English writing and mathematics

- the pupils' average progress:

    - in English reading

    - in English writing

    - in mathematics

The percentage of pupils achieving the expected standard is a combined measure across the three subjects. To be counted towards the measure, a pupil must have a scaled score of 100 or more in reading and a scaled score of 100 or more in mathematics; and have been teacher assessed in writing as 'working at the expected standard' or 'working at a greater depth in the expected standard'.

The percentage of pupils achieving at a higher standard is also a combined measure across the three subjects. To be counted towards the measure, a pupil must have a 'high scaled score' of 110 or more in reading and mathematics; and have been teacher assessed in writing as 'working at a greater depth within the expected standard'.

Unlike the expected standard, which was determined by the Standards and Testing Agency's standard-setting teacher panel, the high score was determined by the department solely with reference to the distribution of pupils' test results, to identify the pupils who achieved the highest marks on the tests.

Alongside this, as confirmed in the performance tables 2018 Statement of Intent,[2] we will be publishing three-year averages for the primary attainment measures.

These measures are additional to, and will not replace, the existing annual headline measures. They are an important way to show how schools are performing across time, smoothing out small variations in a single year, for example, due to a small cohort size. To take into account varying pupil numbers each year, the Department has opted for a three-year average weighted by the size of the school's cohort in each year.

We will also present primary attainment and progress data from the last three years as a simple time series across 2016, 2017 and 2018 for the following measures:

- progress in reading, writing and mathematics
- % achieving expected standard in reading, writing and mathematics
- % achieving higher standard in reading, writing and mathematics
- average scaled score in reading
- average scaled score in mathematics

In addition, the performance tables also include a range of measures, which cover attainment and progress in individual subjects and for various pupil groups. For example, we will show the percentage of pupils gaining the expected standard in English grammar, punctuation and spelling. Further details about what will be included in the performance tables are in the Department's performance tables Statement of Intent.

## Schools that may require support

The Secretary of State announced on 4 May 2018 that there will be a consultation this autumn on a new way to identify schools that might benefit from an offer of support, which will be in place from September 2019.

Until then, the existing floor and coasting standards will remain in place. Where a school is below the floor or coasting standards, but is not judged inadequate, the RSC will not use the Secretary of State's powers to issue an academy order or a warning notice. Instead, the floor and coasting standards will be calculated in 2018 solely for the Department for Education to identify schools that might benefit from support.

For 2018, the definitions for the floor and coasting standard remain unchanged from previous years, as set out below.

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[2] School and college performance tables statement of intent .

# Floor standard definition in 2018

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[3] in all three subjects: at least -5 in English reading, -5 in mathematics and -7 in English writing.[4]

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

The attainment element is a combined measure. This means an individual pupil needs to meet the 'expected standard' in English reading, English 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 English reading, and English writing, and mathematics. There is no measure of 'sufficient progress' for individual pupils.

Examples of schools above and below the floor are:

- School A: 70% of pupils meet the 'expected standard'. School A is above the floor.

- School B: 61% of pupils meet the 'expected standard', but the school has a progress score of -4.2 in English reading and -4.5 in English writing and -3.1 in mathematics. School B is above the floor.

- School C: 61% of pupils meet the 'expected standard' and the school has a progress score of -4.2 in English reading and -4.5 in English writing, but has a progress score of -6.0 mathematics. School C is below the floor.

# School types and particular circumstances (floor standard)

As in previous years, there are some types of schools and particular circumstances in which floor standards do not apply.

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[3] The performance tables publish progress data to one decimal place and the definition of floor standards and coasting schools are defined to this level of accuracy.
[4] 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.

Floor standards do not apply to infant schools, special schools, independent schools, pupil referral units, alternative provision or hospital schools.

Schools are also excluded from the floor standards where:

- there are fewer than 11 eligible pupils in their year 6 cohort; or

- fewer than 50% of pupils have key stage 1 assessments that can be used to establish which prior attainment grouping the pupil should be allocated to; or

- there is insufficient key stage 2 attainment information to produce progress scores, because there are fewer than six pupils with key stage 2 results for a particular subject.

Closed schools, including those that closed during the 2017-18 academic year and reopened as a sponsored academy,[5] will also be excluded from the 2018 floor standards. This means that a school that becomes a sponsored academy during this period is not subject to the floor standard, until it has been open as the new school for at least one full academic year.

# Coasting schools definition in 2018

The coasting definition is based on three years of data, using the same performance measures that underpin the floor standards. In line with regulations,[6] 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.

# School types and particular circumstances (coasting)

A school will have to be below the relevant coasting threshold in all three years to fall within the overall coasting definition. Schools will be excluded from the coasting measure if:

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[5] Schools that have become converter academies during the 2017 to 2018 academic year are treated as continuing schools and are included in the floor standard calculations.
[6] The Coasting Schools (England) Regulations 2017

- they have fewer than 11 pupils at the end of key stage 2; or

- fewer than 50% of pupils had key stage 1 assessments that can be used to establish which prior attainment grouping the pupil should be allocated to; or

- there is insufficient key stage 2 attainment information to produce progress scores, because there are fewer than six pupils with key stage 2 results for a particular subject; or

- the school closes within the academic year.[7]

Any school that is excluded from the coasting measure in a particular year cannot be defined as coasting until it has three consecutive years of data that meets the coasting definition.

The coasting definition applies to all mainstream maintained schools and academies with the relevant key stage 2 data. It does not apply to infant schools, special schools, independent schools, pupil referral units, alternative provision or hospital schools.

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[7] Except if it reopens as a converter academy. Schools that have become a sponsored academy during any point within the three-year coasting period will not be subject to the coasting standard until the school has three years of consecutive data as a sponsored academy.

# Calculating a school's progress scores

## Overview of the progress measures

The progress measures aim to capture the progress that pupils make from the end of key stage 1 to the end of primary school. They are a type of value-added measure, which means that pupils' results are compared to the actual achievements of other pupils nationally with similar prior attainment.

This type of progress measure rewards schools for making progress with all of their pupils, whether they are low-, middle- or high-attainers. Any increase in attainment achieved by each pupil will be reflected in the school's progress scores.

This measure is a school-level accountability measure. **Progress is calculated for individual pupils solely in order to calculate the school's overall progress scores.** Schools should not share individual pupil progress scores with their pupils or parents.

Schools should continue to focus on improving the attainment of all their pupils and report on their attainment and progress to parents, as specified in the Assessment and Reporting Arrangements for key stage 1 and key stage 2. For more information, including on assessment without levels, see the Standard and Testing Agency's pages on GOV.UK.

A school's progress scores in English reading, English writing and mathematics are calculated as the average of its pupils' subject progress scores. These scores give an indication of whether, as a group, pupils in the school made above or below average progress in a subject compared with pupils with similar starting points in other schools.

The school-level scores are used to judge whether a school has met the progress element of the floor standard (as defined on page 7 of this guide).

## Calculating an individual pupil's progress scores

Progress scores are calculated for individual pupils for the sole purpose of constructing a school progress score. Pupil scores are calculated separately for English reading, English writing and mathematics.

**The first step** is to assign pupils into groups with other pupils nationally, who had similar starting points (key stage 1 achievement, see page 16).

**The second step** is to work out the average key stage 2 score for each prior attainment group. This is worked out as the mean average of the actual key stage 2 scores of all the pupils in the prior attainment group.

**Finally**, a pupil's progress score is calculated. This is done by working out the difference between their actual key stage 2 outcome and the average key stage 2 outcome for the other pupils nationally, who are in the same prior attainment group.

For example:

- James has an average key stage 1 score of 17.0, which means he is in prior attainment group 19 (for further explanation of prior attainment groups, please see page 20)

- his result in the key stage 2 mathematics test is a scaled score of 109

- the national average scaled score in mathematics for pupils with an average key stage 1 score of 17 is 106

- James, therefore, has a mathematics progress score of +3.0

| James's KS1 score | average key stage 2 score in maths of all pupils with an average KS1 score of 17.0 | James's estimated KS2 maths score | James's actual KS2 maths score | James's progress score |
|---|---|---|---|---|
| 17 | → | 106 | 109 | 3 |

In this example, James has met the 'expected standard' (a scaled score of 100 or more). He has done better than other pupils with the same key stage 1 attainment and, therefore, has a positive progress score. This will not necessarily be the case for all pupils.

Some pupils will meet the 'expected standard', but will make less progress compared to other pupils in their prior attainment group.

Other pupils will fail to meet the 'expected standard', but will make more progress than the other pupils in their prior attainment group.

## Calculating a school's progress scores

A school's progress score, for a subject, is the mean average of its pupils' progress scores in that subject.

For example,

James is one of 60 pupils in his school's key stage 2 cohort. These pupils have mathematics progress scores as follows:

| Pupil # | Pupil name | Mathematics Progress score |
|---------|------------|----------------------------|
| 1 | James | +3.0 |
| 2 | Chloe | +1.2 |
| … | | |
| 59 | Ebony | -6.5 |
| 60 | Harry | -1.9 |
| | **Sum** | **+132.4** |

The school's mathematics progress score will be 132.4 / 60 = **+2.2**

This process is then repeated for each subject.

Schools are then allocated three progress scores:

- one for English reading
- one for English writing[8]
- one for mathematics

## Pupils with extremely negative progress scores – change from 2018 onwards

The department has received feedback about the disproportionate effect that a small number of extremely negative progress scores can have on a school's average. Such extreme cases tend to occur where a pupil was a middle achiever at key stage 1 and goes on to achieve much worse at key stage 2 than the national average for others with similar prior attainment, for reasons beyond the control of the school (e.g. long-term

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[8] See page 18 for an explanation of how we calculate writing progress scores.

illness). In a small number of cases, progress scores calculated for individual pupils can be so largely negative that they can distort the overall picture of performance for a school.

The department has listened to this feedback and has refined the methodology for 2018 in order to reduce such disproportionate impact of the extreme pupil-level progress scores only. We now limit how negative[9] a pupil's progress score can be when calculating the school average. These pupils still have large negative scores (to reflect that the pupils have made much less progress than other pupils in the same prior attainment group as them), but the disproportionate effect they have on a school's score has been reduced.

We do this by setting a minimum progress score that can be assigned to pupils within the prior attainment groups (for further explanation of prior attainment groups please see page 20) where extremely negative scores exist. Some of the prior attainment groups will not have a minimum progress score threshold set. These are prior attainment groups 1 to 7, where the average scaled scores at key stage 2 are not high enough to allow for extreme negative progress scores. For example:

- if the average scale score at key stage 2 for prior attainment group 7 was 80 in English reading, then the minimum possible progress score for that group would be -21 (59-80[10]). This minimum progress score would be above the threshold for this prior attainment group as -21 is not an extremely negative score; but

- If the average scaled score at key stage 2 for prior attainment group 16 was 103 in English reading, then the minimum possible score for that group would be -44 (59-103). This minimum progress score is extremely negative compared to other pupils nationally in group 16, and would be below the limit for prior attainment group 16. Therefore, the pupil's score would be adjusted to -14.50.

Where a minimum score is set for a prior attainment group, this is determined based on the variation in pupil progress scores within that prior attainment group (as measured by the standard deviation). The minimum scores are fixed at a set number of standard deviations below the mean so that approximately 1% of pupils are identified nationally[11] (in most cases, this is no more than 1 or 2 pupils per school). By design, these minimum scores will change each year. As such, predicting which pupils will, and will not, have

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[9] We are not setting a maximum limit on how positive a pupil's progress score can be as there are much smaller numbers of extremely positive progress scores that have a disproportionate impact than extremely negative ones.

[10] The lowest possible points a pupil can get at key stage 2 in the progress model is 59, as set out on page 25.

[11] Due to natural fluctuation of performance year-on-year, it may not be possible to use the same standard deviation value each year to calculate the minimum scores.

their score affected by this methodology change, in advance of progress scores being made available, will not be possible. Further information on the calculation, the number of standard deviation(s) and minimum thresholds per prior attainment group is available in annex C.

School performance tables published in December 2018 will display the progress figures calculated using the methodology outlined below. However, we will also publish the figures that do not place limits on pupil progress scores for transparency and to help inspectors and others identify how particular schools have been affected.

# Allocating points scores

## Key stage 1 prior attainment groupings

To calculate progress scores, pupils are allocated into prior attainment groupings with all other pupils nationally with similar key stage 1 attainment.

In 2018, pupils' prior attainment was based on their teacher assessments at the end of key stage 1. These assessments took place in 2014 and were reported in levels. Individual key stage 1 subject teacher assessments were converted into points as outlined in the table below.

| Key stage 1 point scores for all subjects | |
| --- | --- |
| National curriculum teacher assessment level | Point score equivalent |
| Level 4 | 27 |
| Level 3 | 21 |
| Level 2A | 17 |
| Level 2B or undifferentiated Level 2 | 15 |
| Level 2C | 13 |
| Level 1 | 9 |
| W – Working towards Level 1 | See the next section |
| M – Missing | Disregard |
| D – Disapplied | Disregard |
| A – Absent | Disregard |

A pupil's key stage 1 point scores for English reading, English writing and mathematics is then combined to give them a key stage 1 average point score (APS).

The average point score is weighted 50:50 for English and mathematics, as this provides a strong correlation to key stage 2 results in all three subjects – English reading, English writing and mathematics.

This is calculated by working out an average score for English (reading and writing) and giving this equal weight alongside mathematics.

## Worked example

James's key stage 1 assessment results were Level 3, Level 2A and Level 2B in English reading, English writing and mathematics respectively.

The diagram below sets out how these are converted into an average point score for James.
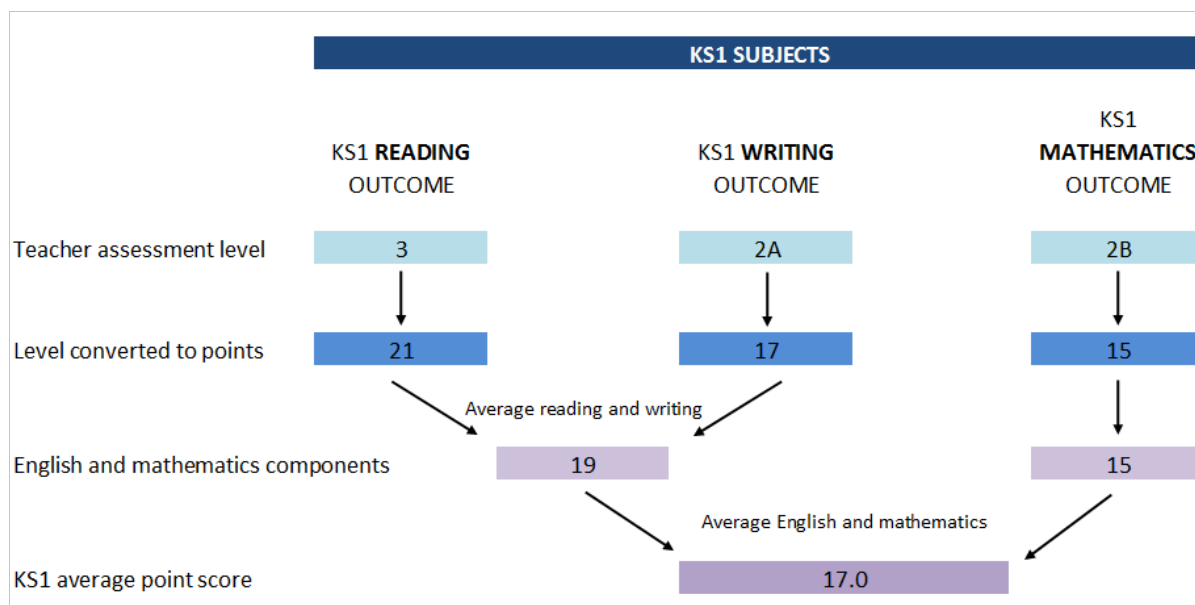


Pupils stay in the same prior attainment group, which is based on their average point score at key stage 1, when we calculate their separate progress scores in English reading, English writing and mathematics.

# Pupils working below level 1 at key stage 1

As we do with all other pupils, we allocate points to pupils working below level 1 at key stage 1. To recognise differences in the abilities of these pupils, we determine different points[12] for those pupils working below level 1 at key stage 1 as follows:

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[12] The allocation of points will change from academic year 2018/19 onwards due to the changes in the revised pre-key stage standards. Please see following section on 'Pupils below the standard of the test or assessment in 2018', on page 23.

| Key stage 1 point scores for pupils below level 1 for all subjects | |
| --- | --- |
| Teacher assessment | Point score equivalent |
| W – Working towards L1, but not on P scales | 3 |
| P8 | 2.75 |
| P7 | 2.5 |
| P6 | 2.25 |
| P5 | 2.0 |
| P4 | 1.75 |
| P3ii | 1.5 |
| P3i | 1.25 |
| P2ii | 1.0 |
| P2i | 0.75 |
| P1ii | 0.50 |
| P1i | 0.25 |

The following rules apply to the way we allocate these points to each subject:

# English reading and writing

- If a pupil is teacher assessed as working towards level 1 (W), but has P4-8 in reading, the P scales score is used as the points score.

- If a pupil does not have P4-8 in reading, but has P1-3 in English, this is used as the points score.

- If a pupil is teacher-assessed as working towards level 1, but does not have P4-8 in reading or P1-3 in English, then they are given three points.

- As above for writing.

# Mathematics

- If a pupil is teacher-assessed as working towards level 1 (W), but has P4-8 in use of mathematics, numbers and shapes, an average is taken.

- If a pupil does not have P4-8 in mathematics, numbers and shapes, but does have P1-3 in mathematics, then the P scales score is used as the points score.

- If a pupil is teacher-assessed as working towards level 1, but does not have P4-8 in mathematics, numbers and shapes or P1-3 in mathematics, then they are given three points.

Allocating points to pupils below the level of the test in this way means that when we determine prior attainment groups, there are six P scale assessment groups that cover those who average broadly at the equivalent of P1-3, P4, P5, P6, P7 and P8. This is to

keep pupils with similar prior attainment in the same prior attainment group, allowing like-for-like comparisons to be made of their progress whilst keeping group sizes large enough to ensure national averages are as reliable as possible.

## Worked example
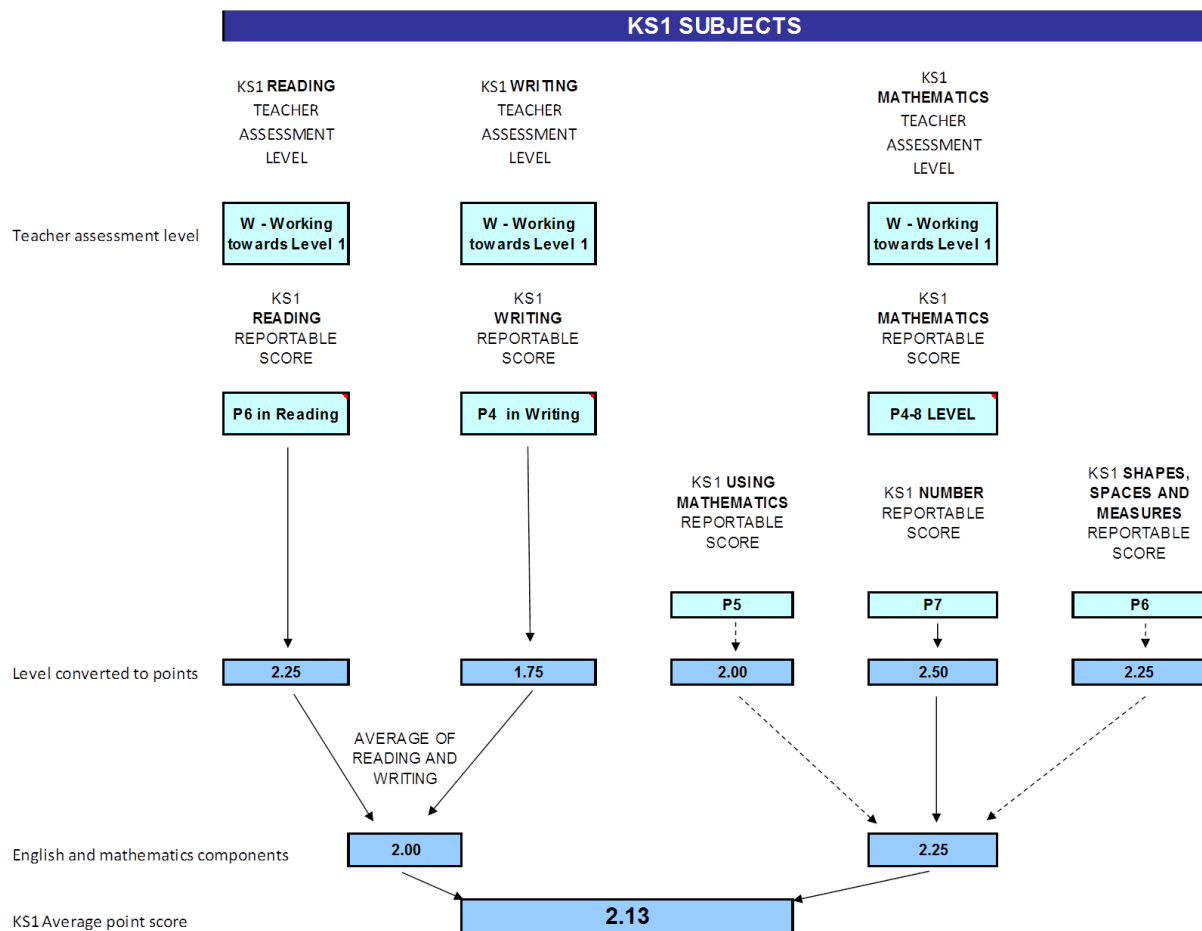
# Prior attainment groups

The process described above created 24 prior attainment groups to which pupils have been allocated depending on their key stage 1 results.

Schools can use the table below to see which prior attainment group a pupil will have been allocated to depending on their key stage 1 average point score and the national key stage 2 averages for each of these groups in 2018 by subject.  As described earlier in this guide, a pupil's progress score is the difference between their own key stage 2 result and the national average key stage 2 result for their prior attainment group.

| Prior Attainment Group (PAG) | KS1 average points score | Average KS2 Reading Score for PAG | Average KS2 Writing Score for PAG | Average KS2 Mathematics Score for PAG |
|---|---|---|---|---|
| 1 | >0 to <1.75 | 61.97 | 61.85 | 62.07 |
| 2 | >=1.75 to <2 | 67.30 | 66.74 | 67.28 |
| 3 | >=2 to <2.25 | 70.53 | 70.18 | 70.38 |
| 4 | >=2.25 to <2.5 | 73.73 | 73.41 | 73.57 |
| 5 | >=2.5 to <2.75 | 76.99 | 76.64 | 77.11 |
| 6 | >=2.75 to <3 | 80.85 | 79.83 | 81.31 |
| 7 | >=3 to <6 | 84.15 | 82.36 | 85.19 |
| 8 | >=6 to <9 | 87.79 | 85.27 | 88.85 |
| 9 | >=9 to <10 | 90.66 | 88.46 | 90.67 |
| 10 | >=10 to <12 | 95.11 | 92.41 | 94.87 |
| 11 | >=12 to <13 | 97.55 | 94.19 | 97.65 |
| 12 | >=13 to <14 | 99.14 | 96.76 | 98.55 |
| 13 | >=14 to <14.5 | 100.66 | 98.63 | 100.33 |
| 14 | >=14.5 to <15 | 101.92 | 99.42 | 101.4 |

| Prior Attainment Group (PAG) | KS1 average points score | Average KS2 Reading Score for PAG | Average KS2 Writing Score for PAG | Average KS2 Mathematics Score for PAG |
|---|---|---|---|---|
| 15 | >=15 to <15.5 | 102.93 | 101.17 | 102.3 |
| 16 | >=15.5 to <16 | 104.70 | 102.15 | 103.05 |
| 17 | >=16 to <16.5 | 104.81 | 102.64 | 104.5 |
| 18 | >=16.5 to <17 | 106.20 | 103.14 | 105.45 |
| 19 | >=17 to <18 | 107.45 | 104.68 | 105.94 |
| 20 | >=18 to <19 | 108.72 | 105.6 | 107.32 |
| 21 | >=19 to <20 | 109.60 | 106.89 | 108.62 |
| 22 | >=20 to <21 | 110.44 | 107.16 | 110.62 |
| 23 | >=21 to <21.5 | 112.55 | 110.13 | 111.87 |
| 24 | >= 21.5 | 115.14 | 111.6 | 115.44 |

# Key stage 2 points scores

## English reading and mathematics tests

For English reading and mathematics, key stage 2 test results have been reported as scaled scores, with 100 as the 'expected standard'. The scaled score for each subject is used as the pupil's key stage 2 outcome in the progress score calculation.

## English writing teacher assessment

In 2017/2018, as in previous years, key stage 2 English writing results were reported as teacher assessments. Pupils working at the standard of the national curriculum were assessed against the new statutory framework for teacher assessment,[13] which includes three categories: working towards the expected standard, working at the expected standard and working at a greater depth within the expected standard.

For the purpose of calculating writing progress scores **only,** pupils were allocated points for each of the teacher assessment outcomes. Pupils still receive their teacher assessment as their key stage 2 outcome and no pupil will receive our point score as their key stage 2 outcome. The points that were allocated to each teacher assessment category are detailed below:

| Teacher assessed writing categories | Points (within the scaled score range) |
|---|---|
| Working towards the standard | 91 |
| Working at the expected standard | 103 |
| Working at a greater depth within the expected standard | 113 |

The same point score is attached to all pupils in the same category. This is because there are only three categories of teacher assessment for those at the standard of the key stage 2 framework and it was therefore not possible to differentiate between pupils

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[13] Changes to the 2017/18 writing TA frameworks mean results in 2018 are not directly comparable to 2016 and 2017, which used the previous interim frameworks.

within each category. This means, for example, that all pupils working at the expected standard were allocated 103 points.

The points for English writing have been guided by outcomes on the key stage 2 English reading and mathematics tests, and performance in English writing. The points were determined by considering the percentage of pupils achieving each category of English writing teacher assessment, identifying the corresponding percentages of pupils on the English reading and mathematics tests and finding the mean scaled score for each group. This determines the number most likely to be the best reflection of a typical pupil's performance in English writing.

This method means that the writing points are based on available information that aligns with a pupil's performance in in English reading and mathematics.

## Pupils below the standard of the test or assessment in 2018

As in previous years, a small percentage of the key stage 2 pupil population did not complete the relevant key stage 2 programme of study. These pupils were categorised as working below the standard of both the national curriculum tests and the teacher assessment framework for the particular subject. The majority of these pupils were assessed against the interim pre-key stage standards in English reading, English writing and mathematics at key stage 2, as recommended by the Rochford Review.[14]

It is important that schools are held to account and given recognition for the progress made by all of their pupils. Therefore, in order to include pupils working below the standard of the test in the progress measures, points were assigned to each of the three teacher assessment categories that were applicable to pupils below the standard of the tests and their P scale teacher assessments. These are set out on the following pages for 2018.

As we did in 2017, in 2018 we have:

- included pupils in special schools[15] in the calculation of key stage 1 prior attainment groups for the progress measures. Including these pupils enables us to include a greater number of prior attainment groups for pupils below the standard of the test than we included in 2016. There are six groups for pupils on P-scales, as described on page 25.

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[14] Rochford Review: final report.
[15] This does not change existing accountability arrangements for special schools. For example, floor standards would still not apply to these schools.

- changed the points allocated to pupils assessed on P-scales at key stage 2 as described on page 25 so that there are a range of points that pupils on P-scales can be allocated, to enable greater like-for-like comparisons between pupils below the standard of the test.

- allocated a nominal point for pupils without a pre-key stage teacher assessment who were entered for the test, but gained too few marks to achieve a scaled score. In 2018, the points assigned are 79.

Following a public consultation on the Rochford Review[16] proposals in 2017, we confirmed that we would extend the interim pre-key stage standards to include all pupils working below the standard of national curriculum assessments, but who are engaged in subject-specific study. The Standards and Testing Agency conducted a review of the interim pre-key stage standards, working with teachers and other education experts, to revise the 'pupil can' statements to ensure that they appropriately represent the key aspects of each subject, allow for progression towards the national curriculum and better reflect classroom practice. The final versions of the pre-key stage standards[17] have been published for use from the 2018/19 academic year onwards. P scales 1 to 4 will continue to be used for the statutory assessment of pupils not engaged in subject-specific study at the end of key stage 2 in the 2018/19 academic year.

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[16] Primary school pupil assessment: Rochford Review recommendations .
[17] Interim pre-key stage 2 standards.

# Key stage 2 points for pupils below the standard of the test in 2018

The points allocated to each teacher assessment category are detailed below:

| Teacher assessment for pupils below the level of the test- <u>at key stage 2</u> | Points (below the scaled score range) |
|---|---|
| Foundations for the expected standard | 73 |
| Early development of the expected standard | 76 |
| Growing development of the expected standard | 79 |

The points allocated to P scale assessments are detailed below:

| P scale teacher assessment for pupils below the level of the test and below pre-key stage standards – at key stage 2 | Points (below the scaled score range) |
|---|---|
| P1i to P3ii | 59 |
| P4 | 61 |
| P5 | 63 |
| P6 | 65 |
| P7 | 67 |
| P8 | 69 |
| Pupils below the pre-key stage standard but not on P scales | 71 |

The following rules apply to the way we allocate these points to each subject:

## English reading and writing

- If a pupil is teacher-assessed as working below the pre-key stage standards (BLW), but has P4-8 in reading, the P scales score is used as the points score.

- If a pupil does not have P4-8 in reading, but has P1-3 in English, this is used as the points score.

- If a pupil is teacher-assessed as working below the pre-key stage standards, but does not have P4-8 in reading or P1-3 in English, then they are given a point score of 71.

- As above for writing.

## Mathematics

- If a pupil is teacher assessed as working below the pre-key stage standards (BLW), but has P4-8 in use of mathematics, numbers and shapes, an average is taken.

- If a pupil does not have P4-8 in mathematics, numbers and shapes, but does have P1-3 in mathematics, then the P scales score is used as the points score.

- If a pupil is teacher-assessed as working below the pre-key stages (BLW), but does not have P4-8 in use of mathematics, numbers and shapes or P1-3 in mathematics, then they are given a point score of 71.

# Interpreting a school's progress scores

Individual pupil-level progress scores are calculated in comparison to other pupils nationally. For all mainstream pupils nationally, the average progress score will be zero.

A school's progress scores for English reading, English writing and mathematics are calculated as its pupils' average progress scores. This means that school-level progress scores will be presented as positive and negative numbers either side of zero.

- A score of zero means pupils in this school, on average, do about as well at key stage 2 as those with similar prior attainment nationally.

- A positive score means pupils in this school, on average, do better at key stage 2 than those with similar prior attainment nationally.

- A negative score means pupils in this school, on average, do worse at key stage 2 than those with similar prior attainment nationally. A negative score does not necessarily mean a school is below the floor.

For example, a school with a mathematics progress score of -4 would mean that, on average, pupils in this school achieved 4 scaled score points lower in the key stage 2 mathematics test than other pupils with similar prior attainment nationally.

English writing progress scores differ from English reading and mathematics progress scores and do not directly relate to scaled scores. As there is no test in writing, key stage 2 teacher assessments are used to create the progress scores. To do this we assign points to teacher assessment before creating the progress scores in our model (see page 15). A progress score of -5 in English writing, therefore, could be seen as meaning pupils in this school on average achieve 5 points lower in our progress model than other pupils with similar prior attainment nationally.

A negative English reading score does <u>not</u> mean that pupils did not make any progress between key stages 1 and 2. A negative score means that they made less progress than other pupils nationally with similar prior attainment.

# What we publish for progress

Each school will have three published progress scores:

- average progress in English reading,

- average progress in English writing, and

- average progress in mathematics

# Confidence intervals

Progress results are calculated for a school based on a specific cohort of pupils. A school may have been just as effective, but have performed differently with a different set of pupils. Similarly, some pupils may be more likely to achieve high or low results independently of which school they attend. To account for the natural uncertainty, 95% confidence intervals around progress scores are provided as a proxy for the range of scores within which each school's underlying performance can be confidently said to lie.

School scores should be interpreted alongside their associated confidence intervals.

If the lower bound of the school's confidence interval is greater than zero, it can be interpreted as meaning that the school has achieved greater than average progress compared to pupils with similar starting points nationally. Similarly, if the upper bound is below zero, then the school has made less than average progress. Where a confidence interval overlaps zero, this means that the school's progress score is not significantly different from the national average.

The results of schools with small cohorts tend to have wider confidence intervals. This reflects the fact that performance of a small number of pupils taking key stage 2 tests can have a disproportionate effect on the school's overall results. Both the progress score and the confidence interval for a school should be taken into account when comparing with other schools or pupil groups.

Further information on confidence intervals is available in annex A.

# Pupils in particular circumstances

In limited circumstances, schools may request that a pupil be omitted from performance measures (for example, if pupils have recently arrived from overseas).

For 2018, there are also a number of circumstances where a pupil's results are not included in the progress measures, but are included in the attainment measure as 'not meeting' the expected standard.

These include:

- pupils who are working at the standard of the tests, but who have no test data in English reading or mathematics; for example, due to absences;

- if pupils have moved schools between key stage 1 and key stage 2, we will retrieve their key stage 1 data and include them in the progress calculation for their current school;

- if pupils have no key stage 1 data, their results will not be included in the school's progress measures, but will be included in the attainment measures.

# Annex A: Confidence intervals

Progress results are calculated for a school based on a specific cohort of pupils. A school may have been just as effective, but have performed differently with a different set of pupils. Similarly, some pupils may be more likely to achieve high or low results independently of which school they attend. To account for the natural uncertainty 95% confidence intervals around progress scores are provided as a proxy for the range of scores within which each school's underlying performance can be confidently said to lie.

The confidence interval, denoted [$LowCI_s, UppCI_s$], is given by the formula:

$$[LowCI_s, UppCI_s] = [P_s - CI_s, P_s + CI_s]$$

where:

| | |
|---|---|
| $LowCI_s$ | is the lower confidence limit for the school's progress score |
| $UppCI_s$ | is the upper confidence limit for the school's progress score |
| $P_s$ | is the school's progress score |
| $CI_s$ | is the size of the confidence interval for the school's progress score |

$$CI_s = 1.96 \times \frac{\sigma_N}{\sqrt{n_s}}$$

where:

| | |
|---|---|
| 1.96 | is the critical value for a 95% confidence interval |
| $\sigma_N$ | is the standard deviation of the progress scores for all eligible pupils <u>nationally</u>; |
| $n_s$ | is the number of eligible pupils that belong to the school |

The national average progress score of all state-funded mainstream school scores will be 0:

- When a school has their lower confidence interval limit higher than zero

    ($LowCI_s > 0$), the school's progress score is above average and the result is statistically significant.

- When a school has their upper confidence interval limit lower than zero

    ($UppCI_s < 0$), the school's progress score is below average and the result is statistically significant.

- In the other cases when the confidence interval straddles zero

    ($LowCI_s < 0 < UppCI_s$), we cannot say with confidence whether the school's progress score is above or below average, and say the result is not statistically significantly different from average.
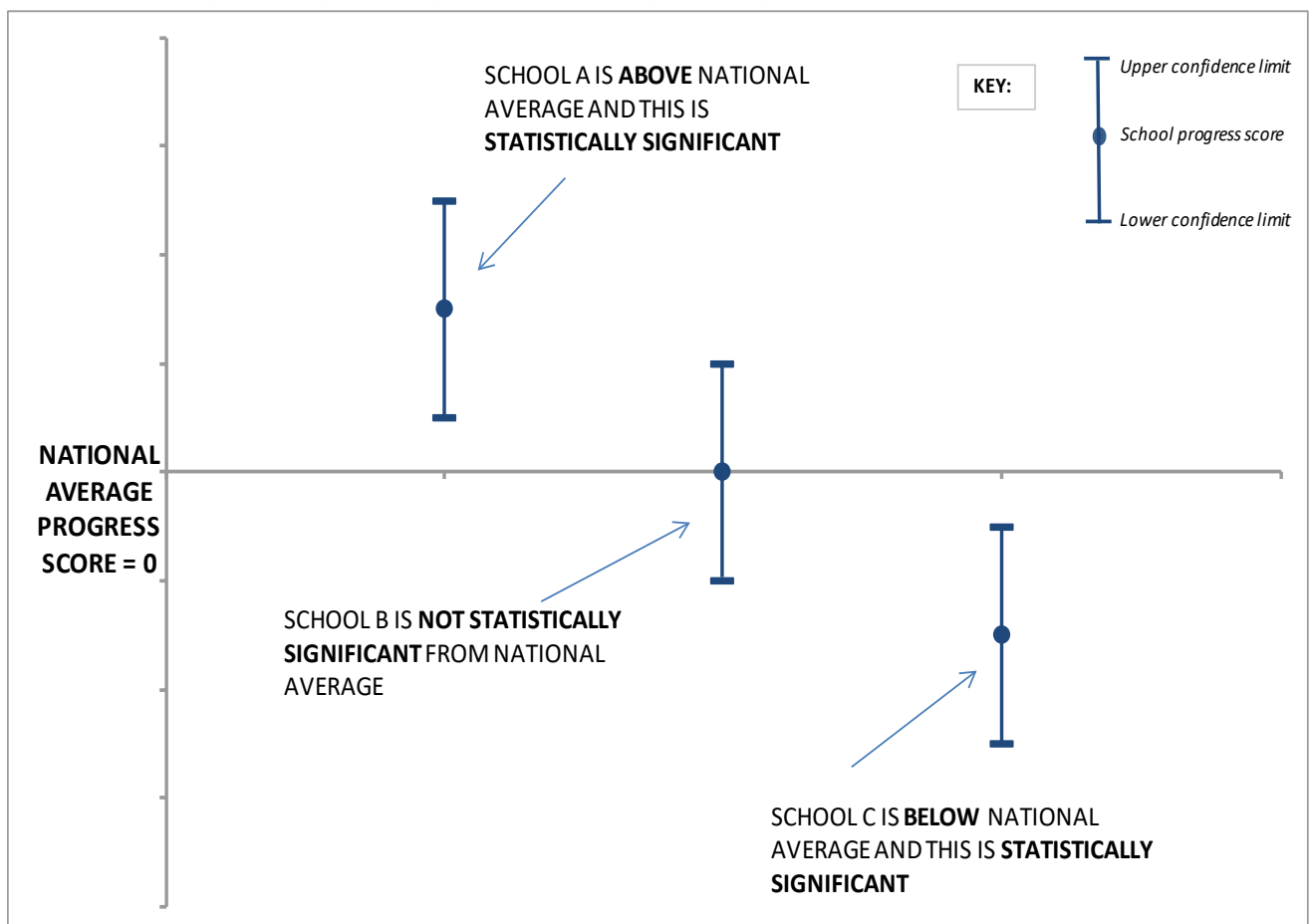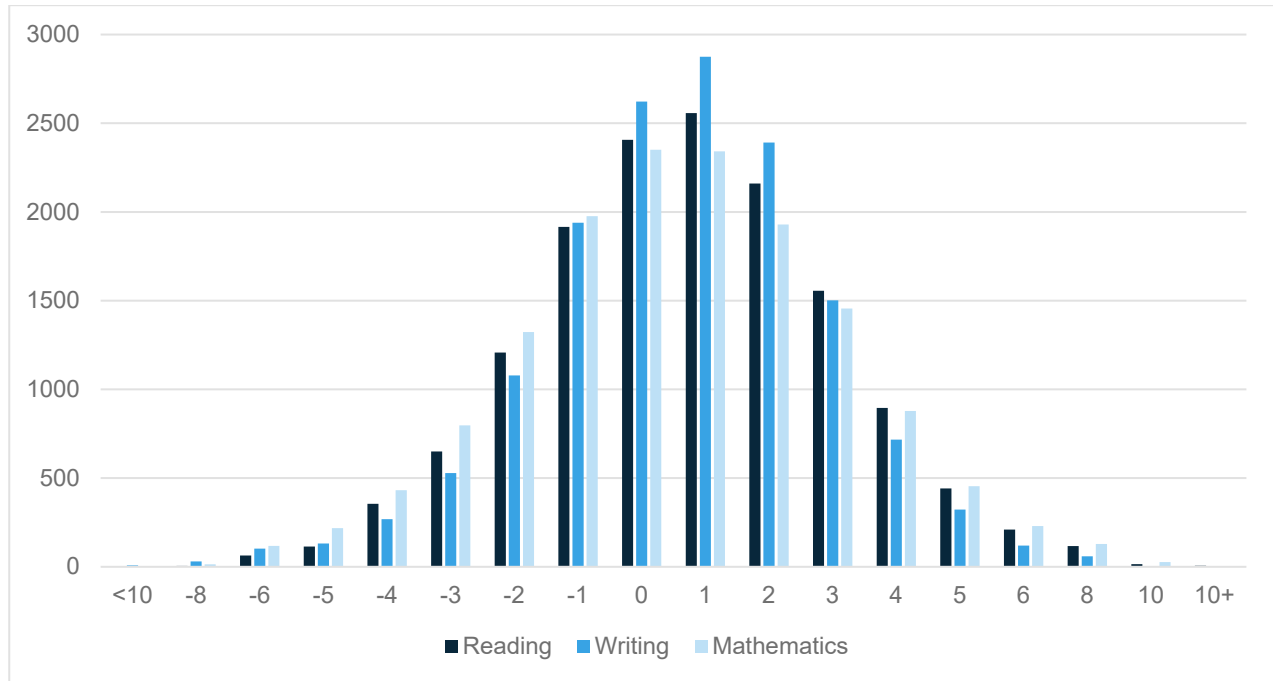
The table below provides the standard deviation of pupil progress scores in each of the three subjects. The standard deviation is a measure to quantify the amount of variation in a set of values. A low standard deviation indicates that the data points tend to be close to the mean, while a high standard deviation indicates the data are spread out over a wider range of values.

The values in the table have been used in the calculation of confidence intervals as outlined in this section.

| Subject | Reading | Writing | Mathematics |
|---|---|---|---|
| Standard deviation | 5.9912 | 5.7384 | 5.4322 |

# Annex B: Distribution of provisional progress scores

The chart below and table shows the distribution of schools' provisional progress scores by subject. They show that we have set sufficient progress (-5 in test subjects and -7 in writing) in a place that identifies the schools making the lowest amount of progress compared to schools with similar intakes.



The table below provides the percentile distribution across the three subjects. All of the schools below the progress element of the floor standard in an individual subject will be in the bottom 5% in that subject.

| Percentiles | Reading | Writing | Mathematics |
|---|---|---|---|
| Top 5% | 4.0 and above | 3.5 and above | 4.1 and above |
| Next 20% | 1.7 to 3.9 | 1.5 to 3.4 | 1.7 to 4.0 |
| Next 15% | 0.8 to 1.6 | 0.7 to 1.4 | 0.6 to 1.6 |
| Middle 20% | -0.4 to 0.7 | -0.3 to 0.6 | -0.6 to 0.5 |
| Next 15% | - 1.3 to -0.5 | -1.2 to -0.4 | -1.6 to -0.7 |
| Next 20% | -3.7 to -1.4 | -3.6 to -1.3 | -4.1 to -1.7 |
| Bottom 5% | -3.8 and below | -3.7 and above | -4.2 and below |

# Annex C: Adjusting extremely negative progress scores – worked example, number of standard deviations and prior attainment group thresholds

## Adjusting progress scores for pupils with extremely negative progress scores (example of how we work it out)

The threshold score applied to the pupil's progress score will dependent on the prior attainment group that the pupil is in.

**The first step** is to ascertain the standard deviation of the bottom 1% of pupils for each of the subjects, English reading, English writing and mathematics.

**The second step** is to calculate the standard deviation of all pupils within each prior attainment group for each of the subjects.

**The third step** is to multiply the result from the first step with the results from the second step to give the threshold for each prior attainment group – the minimum score for that prior attainment group.

For example:

- The standard deviation that corresponds to 1% of pupils nationally is 2.53 in English reading.
- The standard deviations for each prior attainment group and the corresponding threshold for English reading are shown below:

| KS1 PAG | SD | Threshold score (-2.53) |
|---|---|---|
| 1 | 4.621774 | -11.69 |
| 2 | 5.997393 | -15.18 |
| 3 | 6.103999 | -15.44 |
| 4 | 7.200987 | -18.22 |
| 5 | 8.718154 | -22.06 |
| 6 | 9.047162 | -22.89 |
| 7 | 10.25504 | -25.95 |
| 8 | 10.69264 | -27.06 |
| 9 | 9.191988 | -23.26 |
| 10 | 8.479226 | -21.45 |
| 11 | 7.940527 | -20.09 |
| 12 | 7.148697 | -18.09 |
| 13 | 6.778723 | -17.15 |
| 14 | 6.341677 | -16.05 |
| 15 | 6.035637 | -15.27 |
| 16 | 5.730992 | -14.50 |
| 17 | 5.724572 | -14.48 |
| 18 | 5.397375 | -13.66 |
| 19 | 5.289025 | -13.38 |
| 20 | 5.226322 | -13.22 |
| 21 | 5.052757 | -12.78 |
| 22 | 4.739677 | -11.99 |
| 23 | 4.563457 | -11.55 |
| 24 | 4.173308 | -10.56 |

As set out above, the lowest prior attainment groups (1-7) have minimum scores that are above the threshold for that prior attainment group, due to the average for those prior attainment groups being close to the lowest possible scaled score, i.e. no pupils have scores extreme enough to be below the threshold. These prior attainment groups are shaded in grey, see above. The middle to higher prior attainment groups (8-24) have pupils with extreme progress scores below the threshold as defined by the standard deviation. The thresholds are set out above without shading- these are the only prior attainment groups where pupils' scores have been changed by this new methodology.

**The fourth step:** a pupil's progress score will be replaced by the minimum, only if their original score falls below this minimum.

For example:

- School B has nine pupils with the following progress scores for English reading.
- The pupils' progress scores are reviewed against the threshold at each prior attainment group.

| Pupil | KS1 PAG | Progress Score | Threshold Score | Adjusted Progress Score |
|-------|---------|----------------|-----------------|-------------------------|
| 1 | 4 | -5.24 | -18.22 | -5.24 |
| 2 | 7 | 13.50 | -25.95 | 13.50 |
| 3 | 11 | 4.57 | -20.09 | 4.57 |
| 4 | 3 | -2.70 | -15.44 | -2.70 |
| 5 | 8 | -29.52 | -27.06 | -27.06 |
| 6 | 15 | 3.05 | -15.27 | 3.05 |
| 7 | 21 | -15.66 | -12.78 | -12.78 |
| 8 | 8 | 1.39 | -27.06 | 1.39 |
| 9 | 3 | 0.61 | -15.44 | 0.61 |

- If the pupil's progress score is lower than the threshold, the score will be replaced with the threshold score (these are the pupils shaded in grey above).

**Finally**, the school's progress score is calculated by averaging the adjusted progress score.

## Standard deviations

The set number of standard deviations below the mean so that approximately 1% of pupils are identified nationally when adjusting extremely negative progress scores are as follows:

| Subject | Reading | Writing | Mathematics |
|---------|---------|---------|-------------|
| Standard deviation | -2.5303 | -2.8037 | -2.5181 |

The minimum thresholds derived from the above constants are as follows:

| Prior Attainment Group (PAG) | KS1 average points score | Reading | Writing | Mathematics |
|---|---|---|---|---|
| 1 | >0 to <1.75 | N/A | N/A | N/A |
| 2 | >=1.75 to <2 | N/A | N/A | N/A |
| 3 | >=2 to <2.25 | N/A | N/A | N/A |
| 4 | >=2.25 to <2.5 | N/A | N/A | N/A |
| 5 | >=2.5 to <2.75 | N/A | N/A | N/A |
| 6 | >=2.75 to <3 | N/A | N/A | N/A |
| 7 | >=3 to <6 | N/A | N/A | N/A |
| 8 | >=6 to <9 | -27.06 | -27.50 | -27.00 |
| 9 | >=9 to <10 | -23.26 | -24.49 | -21.90 |
| 10 | >=10 to <12 | -21.45 | -22.97 | -19.14 |
| 11 | >=12 to <13 | -20.09 | -22.04 | -17.55 |
| 12 | >=13 to <14 | -18.09 | -20.24 | -16.00 |
| 13 | >=14 to <14.5 | -17.15 | -18.79 | -14.78 |
| 14 | >=14.5 to <15 | -16.05 | -17.85 | -13.91 |
| 15 | >=15 to <15.5 | -15.27 | -15.11 | -13.03 |
| 16 | >=15.5 to <16 | -14.50 | -14.15 | -12.50 |
| 17 | >=16 to <16.5 | -14.48 | -13.92 | -12.27 |
| 18 | >=16.5 to <17 | -13.66 | -13.02 | -12.02 |
| 19 | >=17 to <18 | -13.38 | -13.56 | -11.94 |
| 20 | >=18 to <19 | -13.22 | -14.60 | -12.04 |
| 21 | >=19 to <20 | -12.78 | -14.78 | -12.03 |
| 22 | >=20 to <21 | -11.99 | -14.46 | -11.68 |
| 23 | >=21 to <21.5 | -11.55 | -12.89 | -11.81 |
| 24 | >= 21.5 | -10.56 | -11.00 | -11.90 |

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