Primary school accountability in 2022: technical guide

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

September 2022

Contents

Summary

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

Schools received their own provisional progress scores on 5 September 2022. Annex A of this guidance provides the national distribution of schools' progress scores in 2022 to help schools interpret and contextualise their own[1] scores.

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 were administered in summer 2018, when the 2022 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 were administered in summer 2022.

Expiry or review date

This guidance will next be reviewed in December 2022.

Who is this publication for?

This guidance is for:

- senior leaders working in primary schools and trusts, including maintained schools, academies, alternative provision, free schools and special schools;

- governors and trustees

- local authorities

Main points

This update includes further information about KS2 accountability arrangements and the use of 2021 to 2022 KS2 school performance data. It also sets out further detail on our

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[1] Please note we have advised all those working with schools against comparing schools score to each other in 2022, Annex A is provided for context only.

methodological changes we have made to primary progress measures for 2022. These are:

- how the methodology for the baseline has been calculated in 2022, using key stage 1 (KS1) information from 2018 rather than National Curriculum Levels, as the input to the KS2 progress measures; and

- how we have assigned points in the progress measures to pupils assessed using the Engagement Model in academic year 2021 to 2022.

In 2022, there were some unexpected difficulties in returning end of KS2 results to schools. Where a pupil's results were affected by issues during the collection of KS2 data, we have set out how we have treated those results for a school's accountability measures.

This update also includes information about how, in December, we will calculate KS2 MAT measures for the academic year 2021 to 2022.

As in previous versions, the tables and diagrams in the guidance have been updated to reflect the provisional 2022 data.

Primary school accountability measures

There continues to be a range of forms of accountability in place for primary schools, including key stage 2 (KS2) progress and attainment data and school inspection.

2021 to 2022 KS2 performance measures not published

The impact of the COVID-19 pandemic meant that KS2 tests and assessments did not take place in the 2019 to 2020, or 2020 to 2021 academic years.

In the academic year 2021 to 2022, KS2 tests and assessments returned for the first time since 2019, without any adaptations. A consistent approach to the format of the assessments was needed to help understand the impact of the pandemic on pupils and schools and how this varies between particular groups of pupils, schools and local authority areas. The results will not be published on the KS2 performance measures website for the academic year 2021 to 2022.

This will be a transitional arrangement for the first year in which primary assessments return. We intend to publish primary assessment data on the performance measures website again for academic year 2022 to 2023. Pre-pandemic (2018 to 2019 and earlier) KS2 data will continue to be publicly available, but we will stop displaying the 2018 to 2019 data on individual school pages and move these data to the usual archive with a link on the performance measures website. This is because historical data may no longer reflect a school's current performance.

Who will see 2021 to 2022 KS2 school performance data?

We will still produce the normal suite of KS2 accountability measures at school and MAT level and share these securely with primary schools, academy trusts and local authorities to inform school improvement discussions.

All those using the academic year 2021 to 2022 data will need to do so with caution, as set out below. This includes:

> • Primary schools - will be able to access their own performance data via the schools checking exercise and Analyse School Performance (ASP). Trusts, local authorities and governing bodies will have access to data via ASP in the usual way. Trusts will also have access to their own MAT level data.

> • Ofsted - we will also provide the data to Ofsted to go in the IDSR to inform inspection activity under the Quality of Education judgement, for example, on the impact of curriculum decisions. Inspectors will use 2022 outcomes cautiously and 2021 to 22 data will only be used to inform discussion with the schools about pupil

outcomes. No judgements will be made on the basis of the 2021 to 2022 data alone.

• DfE teams - DfE officials will see the data to inform oversight by regional teams, and when setting criteria to allocate additional funding, for example, teaching schools, English and maths hubs, and free school applications. It will be viewed with caution and officials will ensure they understand the broader context around the data.

How will 2021 to 2022 KS2 performance data be used?

We have always been clear that all users of educational school performance data need to consider this data alongside a range of other information about the school and its individual circumstances, for example by speaking to the school directly, and that conclusions should not be drawn based on a single piece of data alone. This will be particularly important in relation to the data for 2021 to 2022, as a school's performance may be affected by the uneven impact of the pandemic on pupils and schools, and so data will need to be used more cautiously.

While school level data for 2021 to 2022 will provide information about how a school has performed, in relation to local and national averages, it will not provide the broader context around a school's outcomes. In short, as in any year, school level data will tell you 'what' but not 'why'. This is particularly important to bear in mind in relation to the 2021 to 2022 data, due to the uneven impact of the pandemic on pupils and schools. That is why we will ensure that clear messages are placed alongside any data shared, to advise caution in its interpretation. We will strongly discourage users of the data from drawing conclusions based on direct comparisons with performance data from earlier years. We will also advise caution when comparing a school's performance with national or local authority averages, advising users to talk to the school to understand the context for the results. We will also strongly advise against direct comparisons between the performance data for one school and another school, without taking this broader context into account.

We will ensure these messages are shared with officials across the department, including regional teams, as well as local authorities, schools, academy trusts and governors and trustees.

As set out in DfE guidance [2], school and trust leaders should not make pay progression for teachers dependent on the assessment data for a single group of pupils. Performance management targets relating to pupil performance should not be used in isolation and

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[2] School teachers' pay and conditions: guidance - GOV.UK (www.gov.uk)

other factors, in this case the uneven impact of the pandemic on pupils and schools and the considerable caution needed when using the 2021 to 2022 performance data, should also be taken into account.

Ofsted

Ofsted inspectors will be clear that 2021 to 2022 data is not comparable with earlier years and aware of the caveats on the data due to the uneven impact of the pandemic on pupils and schools, and sensitive in their use of it. Inspectors will use caution when considering school performance data in the IDSR, in relation to national or local authority averages, or other schools. HMCI, Amanda Spielman, has committed that the 2021 to 2022 data will be used only to inform discussion with schools about pupil outcomes and, as is always the case, no single piece of data will determine the outcome of any Ofsted judgement.

While this guidance concerns KS2 performance data, the importance of exercising caution in the use of 2021 to 2022 data also applies to other primary assessment data for 2021 to 2022, such as phonics screening check or multiplication tables check data or KS1 teacher assessment outcomes.

Regional Directors

As set out in the Regional Directors decision making guidance: 2022, regional directors will have 2021 to 2022 assessment, test, and exam results data to refer to. This data will be treated with caution due to the uneven impact of the pandemic on schools in 2021 to 2022. This means that while the data will inform discussions with schools, trusts and LAs, it will not be used to compare directly between two or more providers. For example, it will not be used to choose one school or trust over another simply because one has higher or lower performance data. The 2021 to 2022 data will also not be compared directly to 2018 to 2019 data or earlier. The current and historic data however, may, with caution, be compared to national or LA averages from the same year.

KS2 Headline Measures

KS2 headline measures, which for 2022 will not be published at school level, include progress and attainment measures. These are:

- the percentage of pupils achieving the 'expected standard' in English reading, English writing and mathematics at the end of KS2

- the pupils' average scaled score:

    - in English reading at the end of KS2

    - in mathematics at the end of KS2

- 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 greater depth'.

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 greater depth'.

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.

In addition, there is also a range of measures, which covers attainment and progress in individual subjects and for various pupil groups. For example, the percentage of pupils gaining the expected standard in English grammar, punctuation and spelling, and breakdowns showing performance of pupils with particular characteristics, such as disadvantaged pupils, or those for whom English is an additional language.

DfE shares detailed information on performance measures with school leaders, governors and other relevant stakeholders (including local authorities, academy trusts, dioceses and Ofsted) via Analyse School Performance ('ASP') - a secure platform

providing users with restricted access to performance data relevant to their role and/or function.

Statistics on attainment in KS2 national curriculum assessments in England are also published at national, regional, local authority, local authority district and parliamentary constituency level by DfE on the [Explore Education Statistics](#) website.

Key stage 2 multi-academy trust (MAT) measures

In December 2022, we intend to produce, but not publish, the normal suite of KS2 MAT measures for 2021 to 2022. We will share MATs own measures with them, and the measures will also be shared with Ofsted and DfE teams.

As in previous years, we will produce the following KS2 measures at MAT level:

- percentage meeting the expected standard in reading, writing and mathematics combined
- average reading progress
- average mathematics progress
- average writing progress

We will also produce breakdowns of these measures for disadvantaged pupils.

Eligibility for inclusion in the MAT measures

We include data at MAT level for MATs that are sufficiently large and well established to have had time to have an impact on the performance of schools within the MAT.

For 2021 to 2022, we will produce measures for MATs:

- that have at least three schools with results at KS2, and
- where those schools have been with the MAT for at least three academic years (defined as having joined that MAT before 14 September 2018).

This means that we do not produce measures for all MATs. It also means that, where we do produce measures for a MAT, the measures may be based on the results from only some of their schools (ie if they have at least 3 schools, that have been part of the MAT for 3 or more years that have results at KS2, but also have schools with results at KS2 that have been with the MAT for less than 3 years).

The measures cover state-funded mainstream schools within MATs only. Special schools, pupil referral units, alternative provision academies and alternative provision free schools are not included.

We last produced MAT measures for the 2018 to 2019 academic year, since then, we know that the number of MATs that have at least 3 academies, that have been part of the MAT for at least 3 years has increased – as the MAT sector has continued to mature. This means that we expect that in 2021 to 2022 we will be producing measures for significantly more MATs than we did in 2018 to 2019, and some MATs will have MAT measures produced for the first time.

Calculating KS2 measures at MAT level

The MAT level measures are based on the weighted average of a MAT's individual schools' respective attainment scores. Weighting is employed when calculating the average to ensure a school's contribution to the overall score is proportional to its size.

Each of the measures are weighted for:

- the number of pupils at the end of the key stage
- the length of time the school has been with that MAT (those that have been with a MAT for 3 years are given a weight of 3, those with the MAT for 4 or more years are given a weight of 4).

Worked examples of KS2 MAT measures are included in Annex B.

Disadvantaged pupils and MAT measures

We calculate breakdowns of all KS2 MAT level measures for disadvantaged pupils. Evidence shows that overall performance of disadvantaged pupils is lower than that of other pupils. This data indicates how well a MAT improves the performance of disadvantaged pupils. Disadvantaged pupils are those who were eligible for free school meals at any time during the last six years and children looked after (in the care of the local authority for a day or more or who have been adopted from care).

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 (KS1)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 is 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 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 KS1[3] and KS2[4]. For more information, see the Standard and Testing Agency's pages on Gov.uk[5].

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.

Primary progress measures baseline in 2021 to 2022

In 2016, we introduced new assessments that were no longer reported in National Curriculum Levels at both KS1 and KS2. To date we have been using KS1 results that were reported in Levels (prior to 2016) as a baseline for calculating progress measures for primary schools. Pupils who completed KS1 in 2016 and 2017 (with outcomes

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[3] 2022 key stage 1: assessment and reporting arrangements (ARA) - GOV.UK (www.gov.uk)

[4] 2022 key stage 2: assessment and reporting arrangements (ARA) - GOV.UK (www.gov.uk)

[5] https://www.gov.uk/government/organisations/standards-and-testing-agency.

reported against the new assessment frameworks) reached the end of KS2 in summer 2020 and summer 2021 respectively.

As no KS2 primary tests or assessments took place in 2020 or 2021 however, due to Covid-19, no progress measures were created for these cohorts of pupils. In 2021 to 2022, the progress measures we have produced will thus be the first for a cohort with KS1 outcomes reported against the new assessment frameworks (in 2018).

Details of prior attainment groups used for the 2021 to 2022 measures are shown at page 22.

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. Pupils who do not have KS1 data for all of English reading, English writing and mathematics (for example, those who entered a school from another jurisdiction, or who were absent at the time of the KS1 assessments), cannot be included in the progress measures, but their KS 2 scores will be included in their school's attainment measures.

The first step is to assign pupils into groups with other pupils nationally, who had similar starting points (KS1 achievement, see pages 18-22).

The second step is to work out the average KS 2 score for each prior attainment group. This is worked out as the mean average of the actual KS2 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 KS2 outcome and the average KS2 outcome for the other pupils nationally, who are in the same prior attainment group.

For example:

- Jamie has an average Key Stage 1 score of 8.5, which means Jamie is in prior attainment group 17 (for further explanation of prior attainment groups, please see page 22)

- Jamie's result in the Key Stage 2 mathematics test is a scaled score of 109

- the national average scaled score in mathematics for pupils in prior attainment group 17 is 107.36.

- Jamie, therefore, has a mathematics progress score of 1.64

Jamie's KS1 point score	A score of 8.5 puts Jamie in PAG 17. Average KS2 scaled score in maths for pupils in PAG 17.	Jamie's estimated KS2 maths score	Jamie's actual KS2 maths score	Jamie's KS2 maths progress score
8.5	→	107.36	109	→ 1.64
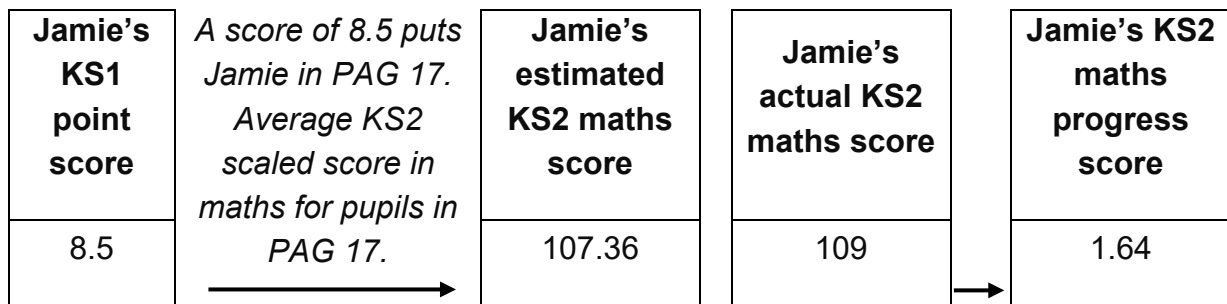
In this example, Jamie has met the 'expected standard' (a scaled score of 100 or more). Jamie has done better than other pupils with the same Key Stage 1 attainment and, therefore, has a positive progress score. This will not necessarily be the case for all pupils.

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,

Jamie is one of 60 pupils in their school's Key Stage 2 cohort. These pupils have mathematics progress scores as follows:

Pupil #	Pupil name	Mathematics progress score
1	Jamie	+1.64
2	Chloe	+2.20
…		
59	Ebony	-1.90
60	Harry	-5.36
Sum		**+132.40**

The school's mathematics progress score will be 132.40 / 60 = **+2.21**

This process is then repeated for each subject.

Schools are then allocated three progress scores:

- one for English reading

- one for English writing[6]

- one for mathematics

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[6] See page 24 for an explanation of how we calculate writing progress scores.

Pupil with extremely negative progress scores

We limit how negative[7] a pupil's progress score can be when calculating the school average. These pupils still have large negative scores (to reflect that they 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. Further information on how we calculate these scores is set out in Annex C.

Releases of data in Analyse School Performance (ASP) in the autumn, will show schools their own progress figures calculated using the methodology outlined in Annex C. We will however, also make available in ASP, scores that do not place limit on pupil progress, for each subject (reading, writing and mathematics).

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[7] 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.

Key Stage 1 point 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(KS1) attainment.

Pupils who reached the end of Key Stage 2 (KS2) in academic year 2021 to 2022 took their end of KS 1 assessments in 2018. Outcomes were reported against the assessment frameworks, introduced in 2016.

Individual Key Stage 1 subject teacher assessments from 2018 are converted into points as outlined in the table below.

Key Stage 1 point scores for all subjects

National curriculum teacher assessment	Point score equivalent
Working at greater depth (GDS)	10
Working at the expected standard (EXS)	8
Working towards the expected standard (WTS)	6
Foundations for the expected standard (PKF)	4
Below the standard of the interim pre-key stage standards (BLW)	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 are 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

Jamie was assessed at the end of Key Stage 1 to be working at the expected standard for English reading, towards the expected standard for English writing and working at greater depth within the expected standard for mathematics.

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

	KS1 SUBJECTS		
	KS1 **READING** OUTCOME	KS1 **WRITING** OUTCOME	KS1 **MATHS** OUTCOME
Teacher assessment outcome	EXS	WTS	GDS
Outcome converted to points	8	6	10
English and maths components	7 *(Average reading and writing)*		10
KS1 average point score	8.5 *(Average English and maths)*		
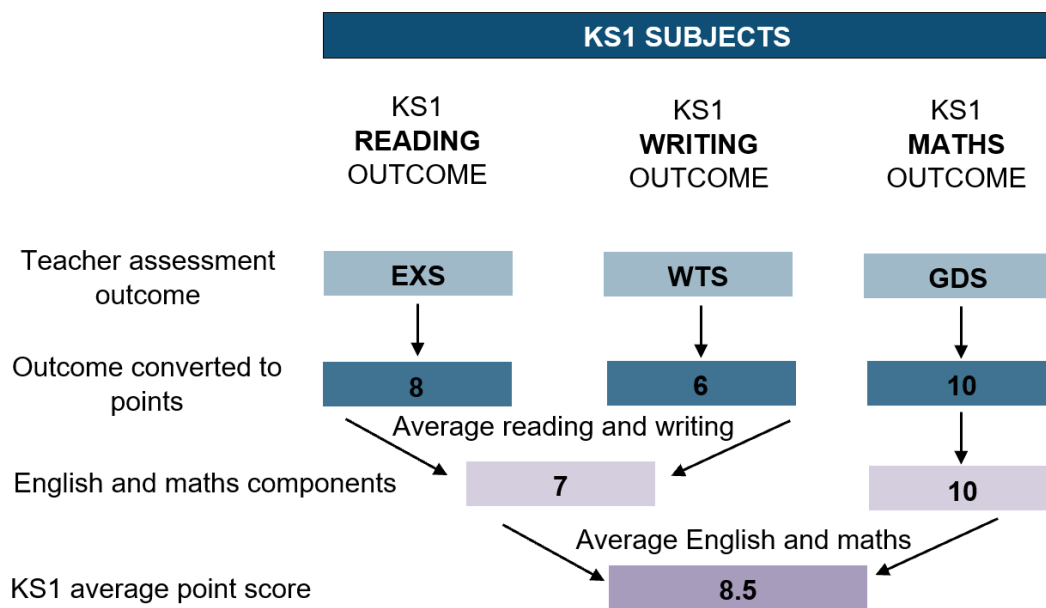
Pupils stay in the same prior attainment group, which is based on their average point score at Key Stage 1, when we calculate their separate progress scores in English reading, English writing and mathematics.

Pupils working below the standard of the interim pre-key stage standards (BLW)

As we do with all other pupils, we allocate point scores to pupils working below the standard of the interim pre-key stage standards. The following table show the point scores associated with each P scale for KS1 assessments that took place in 2018.

Key Stage 1 point scores for pupils working below the interim pre-key stage standards

Teacher assessment	Point score equivalent
Below the standard of the interim pre-key stage standards (BLW) and no P scale info	3.00
P8	2.75
P7	2.50
P6	2.25
P5	2.00
P4	1.75
P3ii	1.50
P3i	1.25
P2ii	1.00
P2i	0.75
P1ii	0.50
P1i	0.25

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

Worked example

KS1 SUBJECTS – English Component

	KS1 **READING** OUTCOME	KS1 **WRITING** OUTCOME
Teacher assessment outcome	EXS	WTS
	KS1 **READING** REPORTABLE SCORE	KS1 **WRITING** REPORTABLE SCORE
Teacher assessed P scale	P6	P4
Outcome converted to points	2.25	1.75

Average reading and writing

English component	2

KS1 SUBJECTS – Maths Component

	KS1 **MATHS** OUTCOME
Teacher assessment outcome	BLW
	KS1 **MATHS** REPORTABLE SCORE
Teacher assessed P scale	P4 - 8

	KS1 **USING MATHS** REPORTABLE SCORE	KS1 **NUMBER** REPORTABLE SCORE	KS1 **SHAPES, SPACES AND MEASURES** REPORTABLE SCORE
	P5	P7	P6
Outcome converted to points	2.00	2.50	2.25
Maths component		2.25	

KS1 average point score	2.13

Prior attainment groups

The process described above created 19 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 2022 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 Maths Score for PAG
1	0 to <1.75	63.01	62.82	63.15
2	>=1.75 to <2	67.27	66.68	67.89
3	>=2 to <2.25	70.64	70.10	71.45
4	>=2.25 to <2.5	74.02	73.23	74.89
5	>=2.5 to <2.75	78.13	76.86	78.90
6	>=2.75 to <3	82.19	80.13	81.97
7	>=3 to <3.5	85.66	83.35	86.17
8	>=3.5 to <=4	87.15	84.65	87.00
9	>4 to <5	91.33	88.02	89.84
10	5	92.64	89.09	92.80
11	>5 to <6	94.14	90.07	94.00
12	6	96.13	92.49	95.11
13	>6 to <7	100.63	95.8	97.24
14	7	100.88	96.77	100.35
15	>7 to <8	102.72	97.64	102.42
16	8	105.46	101.57	104.19
17	>8 to <9.5	108.97	104.43	107.36
18	>=9.5 to <10	110.13	105.16	110.33
19	10	112.18	108.51	111.59

Progress and attainment at KS2 by prior attainment

Where we report breakdowns of KS2 attainment and progress measures by prior attainment, for example, in Analyse School Performance, we define low, middle and high prior attainment at KS2 using KS1 average point scores as follows:

Low prior attainers achieved an average point score of below 7. Middle prior attainers achieved an average point score of 7 or higher and less than or equal to 8. High prior attainers achieved an average point score of higher than 8. Pupils without key stage 1 results are not included in these figures.

Key Stage 2 point 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 2021 to 2022, 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 revised statutory framework for the teacher assessment of writing, first used in 2017 to 2018. The framework includes three categories: working towards the expected standard, working at the expected standard and working at greater depth.

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 greater depth	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 working at the standard of the Key Stage 2 framework and it was therefore not possible to differentiate between pupils 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. The points allocated to each writing teacher assessment reflect the most appropriate points for 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 English reading and mathematics.

Pupils below the standard of the test or assessment in academic year 2021 to 2022

In 2021 to 2022 pre-key stage standards were used to report teacher assessment in English reading, English writing and mathematics for pupils working below the standard of national curriculum assessments engaged in subject-specific study. The pre-key stage standards include six standards at key stage 2.

From the 2020 to 2021 academic year, we replaced P scales 1 to 4 with a new assessment approach, based on the engagement model. The engagement model is the assessment for pupils working below the standard of national curriculum assessments and not engaged in subject-specific study.

As we have done in previous years, we have 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 2022, the points assigned are 79.

Key Stage 2 points for pupils below the standard of the test in 2022

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

Pre-key stage teacher assessment for pupils below the level of the test at Key Stage 2	Points (below the scaled score range)
Standard 6 (working at the KS1 expected standard)	79
Standard 5 (working towards the KS1 expected standard)	76
Standard 4	73
Standard 3	70
Standard 2	67
Standard 1	64
Pupils working on the engagement model	60

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 are 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 not make as much progress by the end of Key Stage 2 as 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 18). 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.

Using performance data to predict individual pupils' scores and sharing pupils' progress data

The Government response to the Workload Advisory Group report 'Making Data Work'[8] provides advice to schools about proportionate use of setting predictions or targets for

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[8] https://www.gov.uk/government/publications/teacher-workload-advisory-group-report-and-government-response

individual pupils to aid teaching. It makes clear that predicting pupils' attainment can sometimes be appropriate, but that pupils or their parents need not be routinely told the levels that they 'should' or 'are likely to' achieve at the end of Key Stages 1 or 2. The Group also stated that 'flight paths', where pupils are told the levels they will achieve based on the performance data of pupils with similar starting points in previous years are not valid as a prediction, as they understate the variation in pupil trajectories of development. Schools are not held to account by the Department for pupil targets and predictions, and local authorities or academy trusts should not routinely request such information.

Similarly, schools should not share individual pupil progress scores with pupils or parents. Schools should not try to predict pupil or school level progress scores in advance of official provisional data being available each September. The primary progress scores are an in-year relative measure.

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 each school's underlying performance can be confidently said to lie within.

School progress 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 D.

Pupils in particular circumstances

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.

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

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;
- in cases where pupils have no Key Stage 1 data, their results are not included in the school's progress measures, but are included in the attainment measures.

Return of key stage 2 results in 2022

In 2022, there were some unexpected difficulties in returning end of key stage 2 results to schools.

Where a pupil's results were affected by issues during the collection of KS2 data, we have set out, at Annex E, how we have treated those results for a school's accountability measures.

Annex A: Distribution of progress scores

The chart below and table shows the distribution of schools' progress scores by subject.
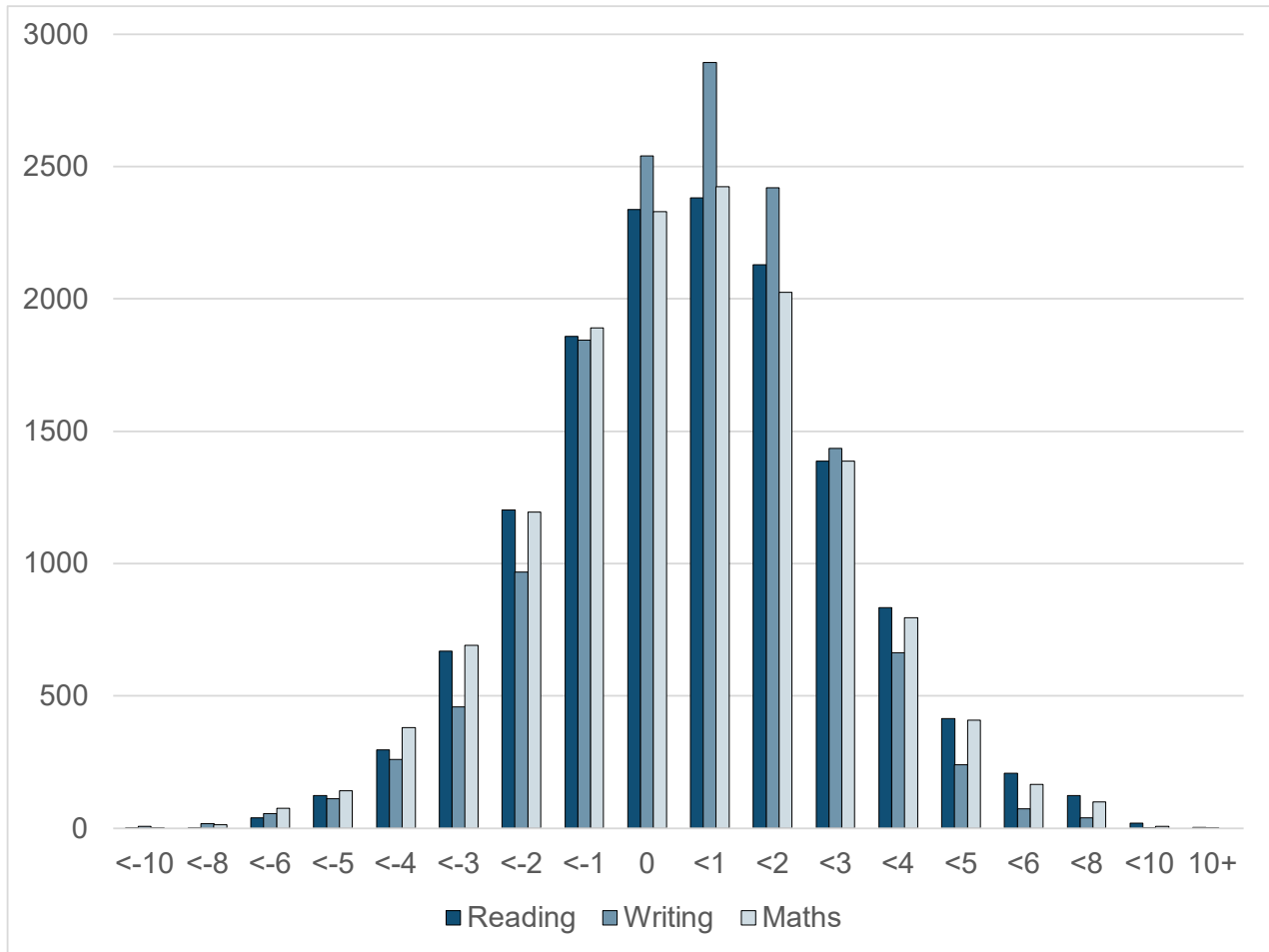
The table below provides the percentile distribution across the three subjects.

Percentiles	Reading	Writing	Maths
Top 5%	3.8 and above	3.7 and above	4.1 and above
Next 20%	1.6 to 3.7	1.7 to 3.6	1.8 to 4.0
Next 15%	0.7 to 1.5	0.8 to 1.6	0.8 to 1.7
Middle 20%	-0.4 to 0.6	-0.3 to 0.7	-0.5 to 0.7
Next 15%	-1.3 to -0.5	-1.3 to -0.4	-1.6 to -0.6
Next 20%	-3.5 to -1.4	-3.9 to -1.4	-4.3 to -1.7
Bottom 5%	-3.6 and below	-4.0 and below	-4.4 and below

Annex B: Worked examples of KS2 MAT measures

The example below illustrates the calculation of the average progress in reading at KS2 for a MAT:

	(i) Progress score in reading	(ii) Number of pupils at end of key stage	(iii) Number of years with MAT	(iv) Total weight (ii) * (iii)	(v) Weighted score (i) * (iv)
Academy 1	2.5	52	3	156	390.0
Academy 2	-2.5	34	4	136	-340.0
Academy 3	3.3	28	4	112	369.6
Academy 4	-1.5	48	3	144	-216.0
Academy 5	-1.5	60	5	240	-360.0
Total		**222**		**788**	**-156.4**
MAT score (sum of v / sum of iv)					**-0.2**

Although Academy 5 has been in the MAT for 5 years, the academy is given a weight of 4 for the number of years with the MAT because this is the maximum weight permissible due to the usual duration of KS2 being four years.

The example below demonstrates the calculation for the percentage meeting the expected standard in reading, writing and mathematics (RWM) at KS2 for a MAT:

	(i) Number of pupils at the end of KS2	(ii) Number of pupils meeting expected standard in RWM	(iii) Years with MAT	(iv) Total weighted pupils at the end of KS2 (i)*(iii)	(v) Total weighted pupils meeting expected standard in RWM (ii) * (iii)
Academy 1	25	17	5	100	68
Academy 2	59	31	3	177	93
Academy 3	50	39	4	200	156
Academy 4	22	7	3	66	21
Academy 5	90	79	3	270	237
Total	246	173		813	575
Unweighted MAT % meeting expected standard in RWM	70.3%		**Weighted MAT % meeting expected standard in RWM**	70.7%	

Although Academy 1 has been in the MAT for 5 years, the academy is given a weight of 4 for the number of years with the MAT because this is the maximum weight permissible due to the usual duration of KS2 being 4 years.

The example below demonstrates the calculation for the percentage of disadvantaged pupils meeting the expected standard in reading, writing and mathematics (RWM) at KS2 for a MAT:

	(i) Number of disadvantaged pupils at the end of KS2	(ii) Number of disadvantaged pupils meeting expected standard in RWM	(iii) Years with MAT	(iv) Total weighted disadvantaged pupils at the end of KS2 (i) * (iii)	(v) Total weighted disadvantaged pupils meeting expected standard in RWM (ii) * (iii)
Academy 1	17	8	3	51	24
Academy 2	21	7	3	63	21
Academy 3	26	13	4	104	52
Academy 4	19	12	3	57	36
Academy 5	15	6	5	60	24
Total	98	46		335	157
Unweighted MAT % meeting expected standard in RWM	46.9%	**Weighted MAT % meeting expected standard in RWM**		46.9%	

Although Academy 5 has been in the MAT for 5 years, the academy is given a weight of 4 for the number of years with the MAT because this is the maximum weight permissible due to the usual duration of KS2 being 4 years.

Annex C: Pupils with extremely negative progress scores

We 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 they 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 22) 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 86 in English reading, then the minimum possible progress score for that group would be -26 (60-86[10]). This minimum progress score would be above the threshold for this prior attainment group as -26 is not an extremely negative score; but
- If the average scaled score at Key Stage 2 for prior attainment group 16 was 105 in English reading, then the minimum possible score for that group would be -45 (60-105). 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 -15.23.

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

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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 60, 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.

Adjusting progress scores for pupils with extremely negative progress scores (example of how we calculate it)

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 2.62 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 (-2.62)
1	5.748	-15.075
2	7.663	-20.097
3	8.724	-22.880
4	8.893	-23.323
5	9.579	-25.123
6	10.325	-27.079
7	10.766	-28.236
8	10.272	-26.939
9	9.678	-25.381
10	9.307	-24.408
11	8.954	-23.483
12	8.347	-21.891
13	7.020	-18.411
14	7.019	-18.409
15	6.497	-17.040
16	5.806	-15.226
17	5.249	-13.765
18	4.916	-12.892
19	5.6297	-13.83
20	5.6568	-13.89

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). The middle to higher prior attainment groups (8-19) contain pupils with extreme progress scores below the threshold as defined by the standard deviation. These are the only prior attainment groups (groups 8-19 in the table above) where pupils' scores have been changed by this 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	-4.02	-23.32	-4.02
2	7	13.34	-28.24	13.34
3	11	4.86	-23.48	4.86
4	3	-3.64	-22.88	-3.64
5	8	-27.15	-26.94	-26.94
6	15	3.28	-17.04	3.28
7	19	-15.18	-12.18	-12.18
8	8	1.85	-26.94	1.85
9	15	0.28	-17.04	0.28

- If the pupil's progress score is lower than the threshold, the score will be replaced with the threshold score (as for pupils 5 and 7 in the table 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	-2.6226	-2.5183	-2.6006

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 <3.5	N/A	N/A	N/A
8	>=3.5 to <=4	-26.9386	-23.4464	-24.1507
9	>4 to <5	-25.3810	-21.5214	-22.5818
10	= 5	-24.4078	-21.2531	-22.2313
11	>5 to <6	-23.4831	-20.5615	-20.8625
12	=6	-21.8907	-18.9290	-19.7523
13	>6 to <7	-18.4113	-17.9344	-17.4058
14	= 7	-18.4085	-17.9057	-16.4779
15	>7 to <8	-17.0395	-17.2349	-15.1897
16	= 8	-15.2264	-13.5895	-14.1894
17	>8 to <9.5	-13.7648	-13.4265	-13.2668
18	>=9.5 to <10	-12.8922	-13.0962	-11.6664
19	=10	-12.1759	-13.0257	-11.9506

Annex D: 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:

$$\left[LowCI_s, UppCI_s \right] = \left[P8_s - CI_s, P8_s + CI_s \right],$$

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;
σ_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 pupils at state-funded maintained 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 case 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.
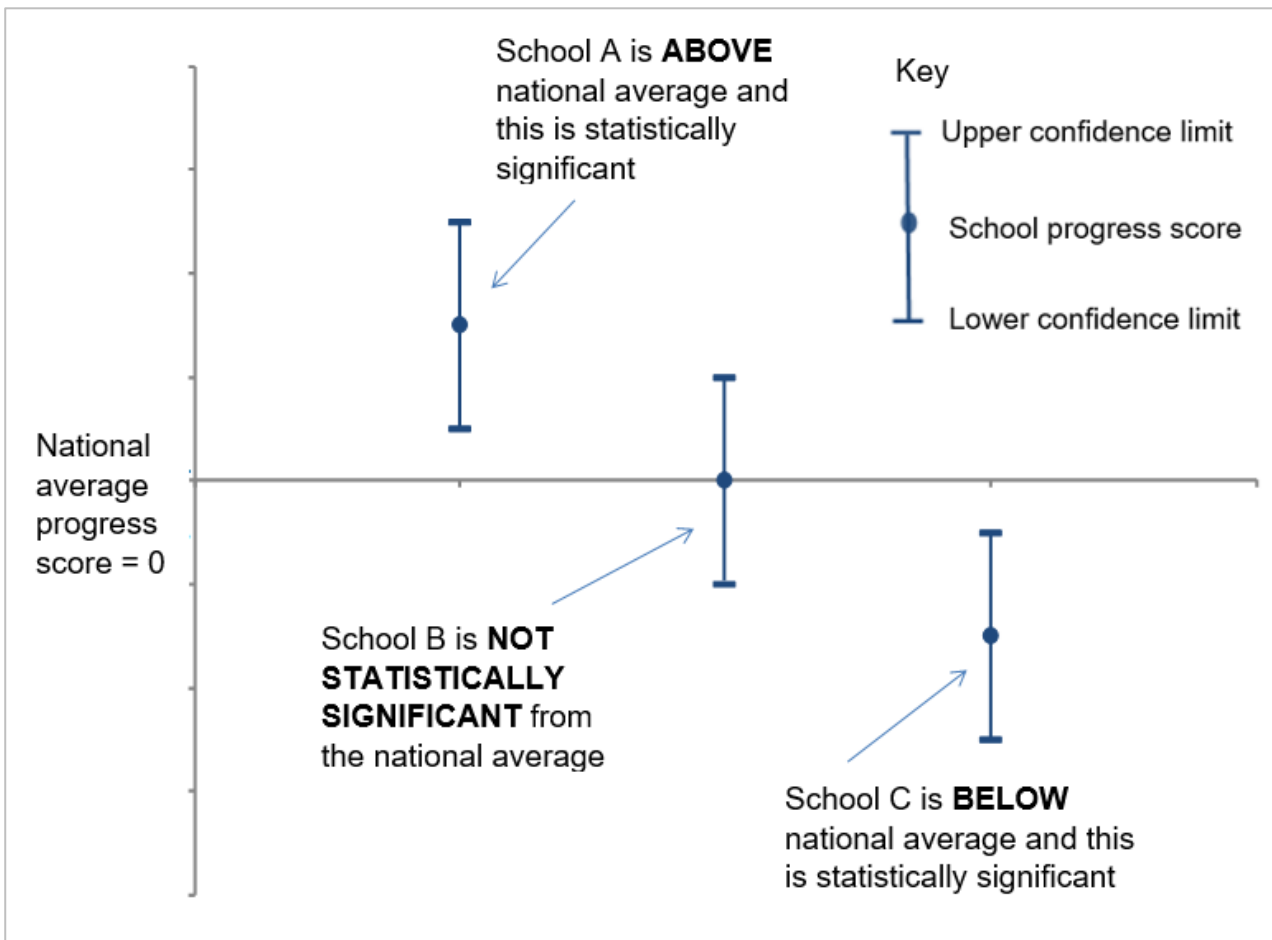
The table below provides the standard deviation of pupil progress scores in each of the three subjects. The standard deviation is a measure to quantify the amount of variation in a set of values. A low standard deviation indicates that the data points tend to be close to the mean, while a high standard 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	6.2871	6.0399	5.8490

Annex E: Rules for including missing data in accountability measures

In 2022, there were some unexpected difficulties during the collection of KS2 data and returning pupils' end of key stage 2 results to schools in July. Where a pupil's results were affected by those issues, the table below shows how, we treat the result when calculating a school's accountability measures.

Scenario – missing whole test subject – reading, GPS or mathematics due to lost script

What STA reports

If the reading script is missing (lost prior to marking/data capture) then STA records the test outcome as missing (M). STA does not award a scaled score.

If one or more GPS/mathematics scripts are missing (lost prior to marking/data capture) then;

- STA records the test outcome as missing (M),
- UNLESS the pupil achieved enough marks in any non-missing scripts to achieve the expected standard, in which case they are given a test outcome of achieved the expected standard (AS). STA does not award a scaled score (even if the pupil is still recorded as meeting the expected standard).

How it is treated in a school's accountability measures

- % Meeting expected/higher standard in RWM

If the pupil has missing ('M') in reading and/or mathematics as their test outcome (and is marked not meeting the expected standard) they are not included in the % meeting the expected or higher standard in RWM measures (either numerator or denominator).

If the pupil is missing one or more scripts but is awarded a test outcome of achieving the expected standard ('AS') in mathematics then they are included in the denominators for % meeting the expected and higher standard RWM measures.

(Note that it is not possible for pupils missing one or more scripts in mathematics to meet the higher standard, so such pupils would be recorded as meeting the expected standard but not meeting the higher standard.)

- % Meeting the expected/higher standard in individual subjects (Reading, mathematics and GPS)

If the pupil has missing ('M') as their test outcome they are not included in the % meeting the expected or higher standard in that subject (either numerator or denominator).

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If the pupil is missing one or more scripts but is still awarded a test outcome of achieving the expected standard ('AS') in mathematics or GPS then they are included in the denominators for the % meeting the expected or higher standard measures in that subject. Note that it is not possible for pupils missing one or more scripts in mathematics to meet the higher standard, so such pupils would be recorded as meeting the expected standard but not meeting the higher standard. This is done on a subject-by-subject basis, so they would be included in measures for other subject(s) if they were not missing any papers.

- Average scaled scores (reading, mathematics and GPS)

If the pupil has one or more scripts missing in a subject (whether this results in a test outcome of 'M' or 'AS') they would not be included in average scaled scores for this subject. This is done on a subject-by-subject basis, so they would be included in average scaled scores for the other subjects if they were not missing any papers.

- Reading and mathematics progress measures

If the pupil has one or more scripts missing in a subject (whether this results in a test outcome of 'M' or 'AS') and they do not have a scaled score, they would not be included in the progress measure for this subject. This is done on a subject-by-subject basis, so they would be included in progress measures for the other subject if they were not missing any papers.

- School-level suppression

If 50% or more pupils' scripts are missing, school level results are suppressed. This is done on a subject-by-subject basis, so the measures would only be suppressed for subjects affected by missing scripts.

Scenario - Missing TA outcomes – for writing, science – where a school/LA has not submitted an outcome or an outcome has not been received by STA.

What STA reports

There is no missing code for TA, therefore pupils without a TA outcome are assigned a blank code.

How it is treated in a school's accountability measures

We use the teacher assessment data provided by STA

If a pupil is assigned a blank code for writing, they are included in the % meeting the expected or higher standard in reading, writing and mathematics as not meeting the expected or higher standard. They are also included in the % working at the expected

standard or working at greater depth in writing as not meeting the expected or higher standard.

These pupils are not included in the writing progress measure.

Use of mock results or teacher assessment for pupils working at the level of the test

Since 2019, STA has not required schools to submit teacher assessment outcomes for reading or mathematics.

DfE does not use pupils mock test results or teacher assessments in reading or mathematics to calculate KS2 school performance measures for reading and mathemtaics in place of test results, as these would not be subject to moderation and would not necessarily be comparable with test results achieved under controlled conditions.

Clerical errors – e.g. wrong Date of birth, wrong scores assigned to pupil.

A detailed pupil level data file is shared with schools via the checking exercise in September. In accordance with the normal process, no reported clerical errors are included in this file. All late results, outcomes of reviews or maladministration investigations are included in KS2 revised school level data due to be released to schools in December.