



Department
for Education

Secondary accountability measures

**Guide for maintained secondary schools,
academies and free schools**

February 2020

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Summary

A new secondary school accountability system was introduced in 2016. This document explains how secondary accountability measures are calculated¹. It also gives more information about announced policies that apply to accountability measures in 2019 and 2020.

Secondary accountability measures in 2019

The headline measures which appear in the 2019 performance tables are:

- Progress 8 - progress across 8 qualifications
- EBacc entry - percentage of pupils entering the English Baccalaureate
- Pupil destinations - percentage of students staying in education or going into employment after key stage 4
- Attainment in English and maths - percentage of pupils achieving a grade 5 or above in English and maths
- Attainment 8 - attainment across the same 8 qualifications as Progress 8
- EBacc APS - English Baccalaureate Average Point Score

A range of additional performance measures and contextual information are published in performance tables. Further details about what will be published in the performance tables are set out in the Statements of Intent: [2019 Statement of Intent](#).

The secondary performance measures are designed to encourage schools to offer a broad and balanced curriculum with a focus on an academic core at key stage 4, and to reward schools for the teaching of all their pupils.

Secondary accountability performance measures are used to inform parents and students about school performance; to prompt and promote self-improvement, to inform the public and stakeholders; and to provide credible information to enable action in cases of underperformance. Performance data is used as the starting point for a conversation about school performance and improvement. Ofsted takes a wide range of factors into account when considering school performance more broadly, including the make-up of a school's cohort.

¹ Pupils are identified as being at the end of key stage 4 if they were on roll at the school and in year 11 at the time of the January school census. Age is calculated as at 31 August at the start of the academic year, and the majority of pupils at the end of key stage 4 were age 15 at this point. Some pupils may complete this key stage in an earlier or later year group.

Updates to the guidance in February 2020

As in previous versions, the tables and diagrams in the guidance have been updated to reflect the revised 2019 data.

Expiry or review date

This guide will next be reviewed before the end of October 2020.

Who is this guide for?

This guide is for:

- head teachers, teachers, other school staff and governing bodies in all state-funded schools, including local authority maintained schools, academies, free schools, special schools and multi-academy trusts (MATs)
- independent schools or colleges with 14-16 provision seeking information on secondary accountability measures
- local authorities

Secondary school performance measures

Progress 8

Progress 8 was introduced in 2016 as the headline indicator of school performance. It aims to capture the progress that pupils in a school make from the end of primary school to the end of key stage 4. It is a type of value added measure, which means that pupils' results are compared to the progress of other pupils nationally with similar prior attainment. Every increase in every grade a pupil achieves will attract additional credit in the performance tables.

Progress 8 is calculated for individual pupils solely in order to calculate a school's Progress 8 score, and there is no need for schools to share individual Progress 8 scores with their pupils.

A Progress 8 score is calculated for each pupil by comparing their Attainment 8 score (see below for detail) with the average Attainment 8 scores of all pupils nationally who had a similar starting point, using assessment results from the end of primary school.² The greater the Progress 8 score, the greater the progress made by the pupil compared to the average for pupils with similar prior attainment.

A school's Progress 8 score is calculated as the average of its pupils' Progress 8 scores. It gives an indication of whether, as a group, pupils in the school made above or below average progress compared to similar pupils in other schools.

- a score of zero means pupils in this school on average do as well at key stage 4 as other pupils across England who got similar results at the end of key stage 2
- a score above zero means pupils made more progress, on average, than pupils across England who got similar results at the end of key stage 2
- a score below zero means pupils made less progress, on average, than pupils across England who got similar results at the end of key stage 2

A negative progress score does not mean pupils made no progress, or the school has failed, rather it means pupils in the school made less progress than other pupils across England with similar results at the end of key stage 2.

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

The department 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 or high achiever at key stage 2 and goes on to achieve much worse at key stage 4 than the national average for others with similar

² More information about how we calculate prior attainment is included on pages 25-28 and Annex D.

prior attainment, for reasons beyond the control of the school (e.g. long-term 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 listened to this feedback and refined the methodology from 2018 in order to reduce the disproportionate impact of extreme pupil-level progress scores only. We now limit how negative³ 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 their 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 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 from 1 to 18 (inclusive), where the average Attainment 8 scores at key stage 4 for these groups are not high enough to allow for extremely negative progress scores.

Minimum thresholds are set at the using provisional data, for mainstream provision. Where a minimum score is set for a prior attainment group, this is 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 for that prior attainment group so that approximately 1% of pupils are identified nationally⁴ (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, 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 E.

Worked examples on how Attainment 8 and Progress 8 measures are calculated are shown in Annex A.

School performance tables display the progress figures calculated using the methodology outlined above and in Annex E. We 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.

³ 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.

⁴ 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.

Percentage of pupils entering the English Baccalaureate

The English Baccalaureate (EBacc) entry measure reports the percentage of pupils entered for the EBacc. To enter the EBacc, pupils must take up to eight GCSEs across five subject 'pillars'.⁵ The structure of the EBacc is set out on page 7 of the Government's response to its consultation on implementing the EBacc⁶.

Percentage of pupils staying in education or going into employment after key stage 4 (pupil destinations)

The headline pupil destination measure shows the percentage of pupils continuing to a sustained education, employment or training destination in the year after completing key stage 4 study (after year 11). The data, published in October 2019, is for pupils who finished year 11 in 2017. Pupils are counted in a sustained destination if they have a recorded activity throughout the first two terms of the 2017/18 academic year (or any consecutive 6 months in the year for apprenticeships).

Additional breakdowns show whether pupils were in education, apprenticeships or employment, did not stay in education or employment for at least two terms, or whether activity was not captured in the data. Education destinations including further education (FE) colleges and other FE providers, sixth-form colleges, school sixth forms and other education destinations are also shown.

In 2018, we changed the way we report progression into apprenticeships in pupil destinations to separate it from other education or employment participation.

We use a range of administrative data to determine pupils' destinations. The data sources include the national pupil database (NPD) and employment and benefits information from Her Majesty's Revenue and Customs (HMRC), Department of Work and Pensions (DWP) and local authorities.

Further information on the key stage 4 destination measures can be found in the DfE publication: [Destination-measures for key stage 4 and 16 to 18 students](#)

Percentage of pupils achieving a grade 5 (strong pass) or above in English and maths

In 2017, pupils sat reformed GCSEs in English language, English literature and maths for the first time, graded on a 9 to 1 scale.

From 2017, the headline attainment in English and maths measure is the percentage of pupils achieving a grade 5 or above in English and maths.

We also publish an additional measure showing the percentage of pupils achieving a grade 4 or above in English and maths in the performance tables. #

gender breakdown. Further details on what is included in the performance tables are set out in the [2019 Statement of Intent](#).

Progress 8 and its constituent elements, and pupil destinations, are not published for independent schools and independent special schools.⁹ Pupil destinations are also only published for schools which had pupils completing the key stage two years previously. The remaining headline secondary accountability measures are published for all secondary schools for which data are published in the performance tables.

As usual, suppression is applied at school level so we do not disclose the results of small numbers of pupils. Figures are suppressed if the school has five or fewer pupils included in the cohort. This applies to sub-groups of pupils as well as the whole cohort; for example, if there were 5 boys and 3 girls in a school, we would not publish attainment for boys or girls separately but would publish attainment for all pupils (as this is based on 8 pupils). The same rules are applied across pupils included in each headline measure except for pupil destinations. We apply extra suppression to destination measures because it contains employment data. We do not publish figures if there are 10 or fewer pupils in a particular school or figures referring to outcomes for 1 or 2 individuals. The Progress 8 score is suppressed if fewer than 50% of pupils at the end of key stage 4 are included in the measure (for example because they do not have key stage 2 prior attainment recorded).

Schools, colleges and local authorities also have access to school level performance data via Analyse School Performance (ASP) and Key to Success (KTS).

Schools that may benefit from support

From September 2019, the floor and coasting standards no longer apply. The Government has set out a new system of support for schools identified as 'requires improvement' in their latest Ofsted report¹⁰.

⁹ We do not publish key stage 2 data for independent schools because they don't have to follow the national curriculum or enter pupils for key stage 2 tests. This means that independent schools are not included in the calculation of Progress 8. They are still included in other attainment measures at key stage 4.

¹⁰ [School improvement support for the 2019 to 2020 academic year guidance](#).

Calculating Attainment 8 and Progress 8

Qualifications included in the measures

Progress 8 and Attainment 8 are based on a calculation of pupils' performance across 8 qualifications. These qualifications are:

1. a double weighted **maths** element that will contain the point score of the pupil's English Baccalaureate (EBacc) maths qualification
2. an English element based on the higher point score of a pupil's EBacc **English language** or **English literature** qualification. This will be double weighted provided a pupil has taken both qualifications
3. an element which can include the three highest point scores from any of the **EBacc** qualifications in science subjects, computer science, history, geography, and languages. For more information see the [list of qualifications that count in the EBacc](#). The qualifications can count in any combination and there is no requirement to take qualifications in each of the 'pillars' of the EBacc
4. the open element contains the three highest point scores in any three **other** subjects, including English language or literature (if not counted in the English slot), further GCSE qualifications (including EBacc subjects) or any other technical awards from the DfE approved list: [Performance tables: technical and vocational qualifications](#). For more information, see the list of qualifications included in the key stage 4 performance tables: [Key stage 4 qualifications discount codes and point-scores](#)

If a pupil has not taken the maximum number of qualifications that count in each group then they will receive a point score of zero where a slot is empty.

Once new reformed GCSEs (9-1) are introduced in a subject, unreformed GCSEs (A* to G), international GCSEs or level 1/level 2 certificates in the same subject will no longer count in performance tables. This includes early entries prior to 2017, 2018 and 2019 in unreformed qualifications. Unreformed qualifications will continue to count until reformed GCSEs (9 to 1) are introduced. Further details are shown in Annex H.

Maths qualifications

This element of Progress 8 is double weighted. Only maths qualifications which also count towards the EBacc can count in the maths element of Progress 8. From 2017 only the new GCSEs (9 to 1) in maths or AS levels in maths or further maths count towards the EBacc and in the maths element of Progress 8.

Where a pupil has taken more than one EBacc maths qualification, qualifications which are not used in the maths element cannot count elsewhere in Progress 8.¹¹

Approved mathematical type qualifications that do not count towards the EBacc, for example GCSE statistics, can be counted in a slot in the 'open' element of Progress 8 regardless of whether or not a pupil has also taken an EBacc maths qualification.

Level 3 Free Standing Maths Qualifications will only count in the 'open' element, and will only count if a pupil has not taken an EBacc maths qualification.

English qualifications

If a student sits both English language and English literature, the higher grade is double-weighted in the English element. The lower grade can count in the 'open' element of subjects (not in the EBacc element).

If only one of GCSE English literature or English language is taken then this qualification will count in the English element, but will not be double-weighted.

From 2017 only the new GCSEs (9 to 1) in English language and English literature, AS English language, AS English literature and AS English language and literature count towards the EBacc and in the English slot of Progress 8.

An explanation of how English counts towards other headline performance table measures is provided in Annex G.

Qualifications in the English Baccalaureate (EBacc) subjects

Only qualifications that count towards the EBacc measure can be included in the Progress 8 element reserved for EBacc qualifications.

Maths cannot be included in the EBacc element. English literature and English language cannot be included in the EBacc element - the better of these qualifications will count in the 'English' element, and the other can count in the 'open' element if the grade is higher than other eligible subjects.

There are no other stipulations about the types of EBacc subjects which can count in the three slots of the EBacc element. Any combination of EBacc subjects can be used to fill these slots, including for example:

- biology, chemistry, French
- or Spanish, French, German
- or history, geography, Spanish

¹¹ First entry and discounting rules as set out on page 18 still apply.

Science and computer science qualifications

All students have to study science up to the age of 16. The key stage 4 science and computing curricula are compulsory in state-funded maintained schools, and academies are required to provide a broad and balanced curriculum, including English, maths and science, up to the age of 16.

New science and computer science GCSEs (9 to 1) were available for teaching from September 2016, with the first examinations in summer 2018.

There is the combined science GCSE (double award), the single science GCSEs (biology, chemistry and physics) and computer science GCSE.

Combined and single science GCSEs are the only science GCSE options now available. GCSEs in core, additional and further additional science are no longer eligible to count in the performance tables and early entries in these qualifications will not count.

Separate GCSEs in biology, chemistry, physics and computer science each take up one slot, and can count in Progress 8 in any combination. The combined science GCSE can take up two slots in either the EBacc or open elements of Progress 8 where this represents the highest relevant grades achieved. One grade from this qualification can fill one slot if higher grades are achieved in other qualifications.

The points awarded to combined science are averaged, which means for example, that a combined science grade of a grade 6 and a grade 5 would be averaged to two 5.5 points to fill either one or two slots as appropriate (a maximum of 11 points across two slots). This is shown in more detail in Table B.2 on page 35.

Any other science subject may count in the open element of Progress 8.

Details of the combined science, single science and computer science qualification pathways and how they may count in the headline measures can be found in the Discounting and Early Entry Guidance at: [Key stage 4 qualifications discount codes and point-scores](#).

Qualifications in the 'open' element

Up to three GCSE qualifications (including EBacc subjects not used to fill the slots in the EBacc element) and/or technical awards from the approved list for the year in question can count towards the three slots in the 'open' element in the Progress 8 measure.

Technical awards are approved level 1 and 2 qualifications that equip 14 to 16 year olds with applied knowledge and practical skills not usually acquired through general education¹².

¹² See the technical guidance for further information: [14 to 19 technical and applied qualifications technical guidance](#).

Level 3 qualifications

AS levels can count in the appropriate element of the Progress 8 measure for their subject (for example, maths AS-levels count in the maths slot, a French AS-level in the 'EBacc group', and an Art AS-level in the 'open' element). If a GCSE in the same subject has been taken the AS-level will always count in Progress 8 and the GCSE will not count, even if the AS has a lower point score than the GCSE. AS-levels at grades A and B score higher points in Progress 8 than an A* in unreformed GCSEs, and AS levels at grade A score higher points in Progress 8 than a grade 9 in reformed GCSEs.

Level 3 qualifications not included in the EBacc list can only count in an 'open' slot. This includes Free Standing Maths qualifications.

Free Standing Maths Qualifications will only count in an 'open' slot if a pupil has not taken an EBacc maths qualification.¹³

One graded music qualification can count in the 'open' element of Progress 8, and can count alongside GCSE music.

Point scores

In 2017, new GCSE (9 to 1) qualifications in English and maths were included for the first time in the Progress 8 measure. A further 20 reformed GCSEs were examined for the first time in 2018, with more following in 2019 and five small entry GCSEs in 2020. A full list can be found in Annex H.

These new qualifications use a grading scale from 9 to 1 to identify levels of performance. Points are allocated to the new GCSEs on a 9 to 1 score scale corresponding to the 9 to 1 grades, for example a grade 9 will get 9 points in the performance measures.

During the transition period where a combination of reformed and legacy GCSEs can count towards performance measures, point scores from legacy GCSEs are mapped onto the 9 to 1 scale (with 8.5 being the maximum points available for legacy GCSEs) and used to calculate Attainment 8, Progress 8 and the EBacc average point score.

The point scores for different types of qualifications in 2016, 2017, 2018, 2019 and 2020 can be found in Annex B. A list of all key stage 4 qualifications and the points allocated to them in performance tables can be found here: [Key stage 4 qualifications discount codes and point-scores](#)

¹³Free Standing Maths Qualifications (FMSQ) do not discount EBacc maths qualifications therefore early entry rules are not applicable across these qualifications. For example, even if a pupil sat an FSMQ in year 10 and an EBacc maths qualification in year 11, the 'open' slot would not be filled by the FSMQ as the pupil would have an EBacc maths qualification which counts.

Discounting, pathway and first entry rules

Discounting ensures that, where a pupil has taken two or more qualifications with a significant overlap in content, the performance tables only give credit once for teaching a single course of study.

[Rules for first entry in a particular subject](#) still apply under Progress 8 and Attainment 8, as do rules for pathways in English, maths and science qualifications. The discounting and early entry guidance is published here: [Key stage 4 qualifications discount codes and point-scores](#).

When a new GCSE (9 to 1) is introduced in the performance tables, an early entry to the unreformed GCSE (A* to G) in the same subject will not count in the performance tables.

Measurement of the progress of pupils with no key stage 2 test results.

Pupils working below the level of the test

When calculating the baseline for each pupil's Progress 8 score, we will use key stage 2 teacher assessments in cases where pupils have been unable to access the end of key stage 2 tests. This includes taking account of teacher assessments at levels 1 and 2. Annex D shows how we will award points to different pupils in Progress 8.

Pupils without a test score in reading, maths or both

Certain pupils without a test score in one or both of reading and maths, can have their teacher assessment used. If a pupil has assessment information for one subject only, this subject will be used as the baseline. Where key stage 2 test results have been annulled where maladministration has been found, we will use teacher assessment where this is available to calculate Progress 8.

Pupils who have no key stage 2 assessment

There will be some pupils (those arriving at secondary school from the independent sector or abroad) who have no key stage 2 results to use as the baseline for the Progress 8 measure. These pupils' scores will not be included in the Progress 8 measure (and the pupils will not be included in the denominator when calculating the average of the progress scores for the school).

However, these pupils will be included in the attainment measures for the school, unless they have arrived from a non-English speaking country in year 10 or year 11 and the school requests for their results to be removed. We also expect the school to be able to discuss with Ofsted, parents and others the progress these pupils have made through secondary school.

Interpreting Progress 8 scores

A school's Progress 8 score is calculated as the average of its pupils' Progress 8 scores. For all mainstream pupils nationally, the average Progress 8 score will be zero. When including pupils at special schools the national average will not be zero as Progress 8 scores for special schools are calculated using Attainment 8 averages based upon mainstream pupils. School scores should be interpreted alongside their associated confidence intervals. If the lower bound of the school's confidence interval (see confidence intervals below) is greater than zero, it can be interpreted as meaning that the school has achieved above-average progress compared to pupils nationally, and vice versa if the upper bound is negative.

The minimum grades each pupil requires to achieve a positive Progress 8 score will not be known in advance. This is because each pupil's results are compared to other pupils with the same prior attainment.

It is highly advisable that care should be taken when using a previous year's attainment averages as a guide to potential future Progress 8 results. This is because changes to national subject entry patterns and performance will cause these averages to change in future years. Schools may change their curriculum offer in response to the Progress 8 measure and to the Government's EBacc ambition, so any modelling based on current national results could be misleading.

See Annex F for further details on interpreting school scores and their associated confidence intervals.

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'¹⁴ provides advice to schools about proportionate use of setting predictions or targets for 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 stage 4. 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 multi-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

¹⁴ [The teacher workload advisory group report and government response.](#)

advance of official provisional data being available each September. The Progress 8 score is an in-year relative measure.

Confidence intervals

Progress 8 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 grades independently of which school they attend. To account for this natural uncertainty 95% confidence intervals around Progress 8 scores are provided as a proxy for the range of scores within which each school's underlying performance measure can be confidently said to lie. The results of schools with a small cohort tend to have wider confidence intervals; this reflects the fact that the performance of a small number of pupils taking their key stage 4 exams can have a disproportionate effect on the school's overall results. Both the Progress 8 score and the confidence interval for a school should be taken into account when comparing with other schools, pupil groups or national averages.

Information about how confidence intervals are calculated is described in Annex F.

Impact of the number of qualifications taken on a pupil's Progress 8 score

The number of qualifications each pupil should enter remains a professional judgement for schools led by what best meets the needs of an individual.

The Progress 8 score for each pupil will always be determined by dividing the points total for their best eight qualifications by 10 (the eight qualifications with English and maths both double-weighted), regardless of how many qualifications the pupil sits.

This approach supports the policy aim to encourage schools to offer a broad and balanced curriculum with an academic core.

It may benefit some less able pupils to work towards good grades (and hence score more points) in fewer subjects, with the emphasis on doing well in English and maths, rather than to take more subjects but achieve lower grades overall.

Key stage 2 tests

We use scaled scores to report the results of the national curriculum tests that pupils sit at the end of key stage 2. The range of scaled scores available for each key stage 2 test is the same as in previous years. The lowest scaled score that can be awarded is 80 and 120 is the highest scaled score. Pupils scoring at least a scaled score of at least 100 will have been deemed to have met the expected standard of the test. More information about scaled scores can be found [here](#).

If you would like to see how test scores compare with the 2019 national or local authority average for each subject, or the 2018 results, you can do this at: [National curriculum assessments and review outcomes at key stage 2](#).

Secondary schools should continue to view key stage 2 test results as just one piece of data available to them and continue to supplement this data with their own ongoing assessments of what pupils know and can do.

Information available to secondary schools about their year 7 pupils

Secondary schools receive information via common transfer files on the teacher assessment and test score (the scaled score) awarded to each pupil.

Question Level Analysis is available for secondary schools to use in Analyse School Performance (ASP). This will help secondary schools identify strengths and weaknesses of incoming year 7 pupils in each test subject.

How scaled scores will be used in Progress 8

The first GCSE results for pupils with key stage 2 scaled scores will not be available until 2021. We will provide information about how scaled scores will be used in Progress 8 before then.

Pupils reaching their estimated grades

A pupil's estimated grade is what they are anticipated to achieve based on the national average for their prior attainment group. Progress 8 does not give particular credit to a school for helping a pupil reach his or her estimated grade. Schools get credit for each increase in grade a pupil achieves, regardless of how this grade relates to their estimated grade. For example, the Progress 8 score can improve equally if a pupil working well below their estimated grade moves up one grade, or if another pupil moves up one grade to achieve their estimated grade.

Annex A - Worked Examples

Calculating Attainment 8

Worked Example A

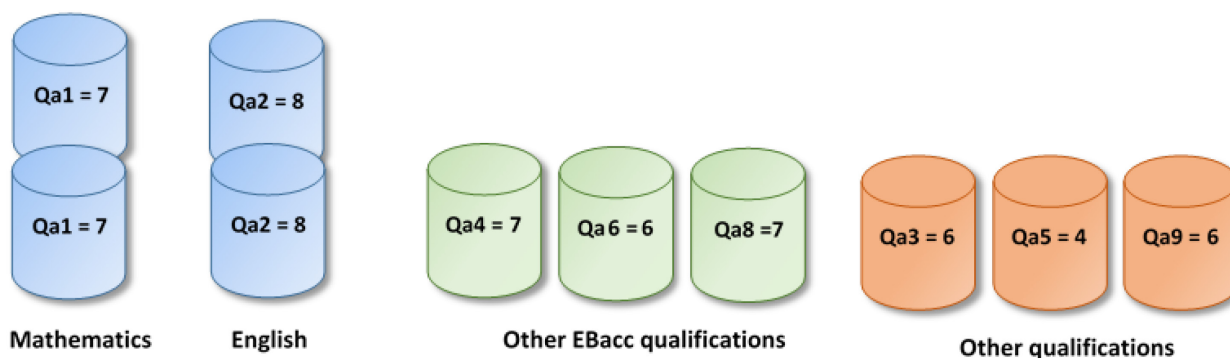
Table A.1 sets out how the Attainment 8 score would be calculated for a particular pupil, Gillian, based on current point scores.

Table A.1: Key stage 4 results for Gillian

ID	Qualification	Grade	Points	Included in the measure	Element	Doubled?	Total points
Qa1	GCSE maths	7	7		Maths		14
Qa2	GCSE English language	8	8		English		16
Qa3	GCSE English literature	6	6		Open		6
Qa4	GCSE biology	7	7		EBacc		7
Qa5	GCSE art	4	4		Open		4
Qa6	GCSE physics	6	6		EBacc		6
Qa7	GCSE Persian ¹⁵	A*	8.5				
Qa8	AS Level Persian	C	7		EBacc		7
Qa9	GCSE Spanish	6	6		Open		6
Qa10	GCSE religious studies	3	3				

¹⁵ GCSE Persian is unreformed in 2019, reformed GCSEs in Persian will be introduced into performance tables in 2020. In the interim, the unreformed GCSEs still count in performance tables and towards Attainment 8/Progress 8.

Referring to the IDs of qualifications above, the following illustrates the calculation of the Attainment 8 score for Gillian:



$$\begin{aligned}
 \text{Attainment 8 score} &= (Qa1 + Qa1) + (Qa2 + Qa2 \text{ as taken English literature}) \\
 &\quad + Qa4 + Qa6 + Qa8 + Qa3 + Qa5 + Qa9 \\
 &= (\\
 &= \mathbf{66}
 \end{aligned}$$

Dividing the Attainment 8 score by 10 gives a pupil's average grade. In this case it is 6.6.

Worked Example B

Table A.2 sets out how the Attainment score would be calculated for another pupil, Hardip.

Table A.2: Key stage 4 results for Hardip

ID	Qualification	Grade	Points	Included in the measure	Element	Doubled?	Total points
Qb1	GCSE Maths	3	3		Maths		6
Qb2	GCSE English Language	4	4		English		4
Qb3	GCSE Combined Science	5-5	5		EBacc Ebacc		5 5
Qb4	GCSE Computer Science	4	4		EBacc		4
Qb5	BTEC First Award in Hospitality	Distinction	7		Open		7

Qb6	BTEC First Award in Sport	Merit	5.5		Open		5.5
Qb7	NCFE Certificate in Business and Enterprise	Pass	4		Open		4
Qb8	Pearson BTEC Tech Award in Health and Social Care	Pass	1.75				



$$\begin{aligned}
 \text{Attainment 8 score} &= (Qb1 + Qb1) + (Qb2 + 0) \\
 &\quad Qb3 + Qb3 + Qb4 + Qb5 + Qb6 + Qb7 \\
 &= (\\
 &= 40.5
 \end{aligned}$$

Dividing the Attainment 8 score by 10 gives a pupil's average grade. In this case it is 4.05.

Hardip has not taken English literature, so his score for English language is not doubled. Furthermore, he has taken two EBacc subjects, as computer science¹⁶ counts as a separate science in addition to combined science, so he scores in each of the three EBacc slots. The three highest scores from the four technical awards he entered count towards the open slots.

¹⁶ Since 2014 computer science has counted as an individual science in the performance tables. However, it can also count alongside combined science or single sciences in Attainment 8/Progress 8 and it is not involved in science pathway discounting, so it is possible for computer science to count in Attainment 8 and Progress 8 measures alongside combined science.

Calculating a pupil's Progress 8 score

Progress 8 scores are calculated for pupils for the sole purpose of calculating the school's Progress 8 score.

- pupils are included in Progress 8 if: their key stage 4 attainment can be matched to their attainment at key stage 2
- they have a key stage 2 average point score that is greater than zero
- they do not have a missing or disregarded outcome in both reading and maths key stage 2 tests / teacher assessments
- they attend a state-funded mainstream school ¹⁷

A pupil's Progress 8 score is defined as their Attainment 8 score, minus the average Attainment 8 score of all pupils nationally with the same prior attainment at key stage 2 within that cohort¹⁸. Revised 2019 attainment averages are shown in Annex C.

Pupil prior attainment calculation for Progress 8

Pupil results for key stage 2 tests are in the form of basic levels which are derived by applying level thresholds to raw test marks. Key stage 2 reading and maths test results are used in the calculation of these fine levels¹⁹.

From 2017, a pupil's prior attainment is defined as the average of their key stage 2 reading and maths results²⁰, in fine graded levels. Some of the fine levels are grouped together where pupils' numbers are low to enable more robust calculation in Progress 8. Further details on the input for the prior attainment calculation is shown in Annex D.

The majority of pupils reaching the end of key stage 4 in 2019, reached the end of key stage 2 in 2014. The following table shows the level thresholds from the key stage 2 tests in 2014.

¹⁷ We will include pupils who sat key stage 2 tests at an independent primary school and moved to a secondary mainstream school.

¹⁸ From 2018, pupil progress scores are adjusted, see "Pupils with extremely negative progress scores".

¹⁹ This change was introduced in 2017, previously English and maths scores were used. This is because since 2012 primary schools have used a form of teacher assessment in writing at key stage 2 that does not map easily to test scores.

²⁰ These average KS2 prior attainment scores are grouped to ensure a sufficient number of pupils across the prior attainment distribution.

Reading	Reading	Maths	Maths
Level	Mark range	Level	Mark range
N	0-11	N	0-14
-		2	15-17
3	12-18	3	18-45
4	19-31	4	46-78
5	32-50	5	79-100

For pupils with key stage 2 test level 3, 4 or 5, test marks are converted to subject fine grade by:

where the level and level thresholds are determined by the mark.

In the case of pupils with key stage 2 test level 2, teacher assessment is also taken into account. If a pupil has a teacher assessment of W, 1 or 2, their fine grade is 0.5, 1.5 or 2.5 respectively. If their teacher assessment is higher than 2, test marks are converted to fine grade. Following feedback, clarification of the formula is shown in the table below:

KS2 test level	KS2 teacher assessment level	KS2 fine grade
2	Working towards L1	0.5
2	Level 1	1.5
2	Level 2	2.5
2	Above level 2	<hr/>

Further detail is given in Annex D.

Once the key stage 2 reading and maths marks have been converted to fine grade, an average of the two is taken to provide an overall fine level. This is then rounded to 1 decimal place to obtain the fine level. Given that some fine levels are held only by few pupils, Progress 8 uses grouped fine levels, as follows:

KS2 fine level	KS2 grouped fine level
Up to 1.5	1.5
Between 1.6 and 2.0	2
Between 2.1 and 2.5	2.5
Between 2.6 and 2.8	2.8
Between 2.9 and 5.7	KS2 fine grade
At least 5.8	5.8

Worked example A

Gillian reached the end of key stage 2 in 2014 and achieved key stage 2 reading and maths test marks of 40 and 74 respectively. To calculate the KS2 prior attainment group:

- convert key stage 2 test scores to fine grades

- find the overall key stage 2 fine level by finding the subject average and rounding to one decimal place

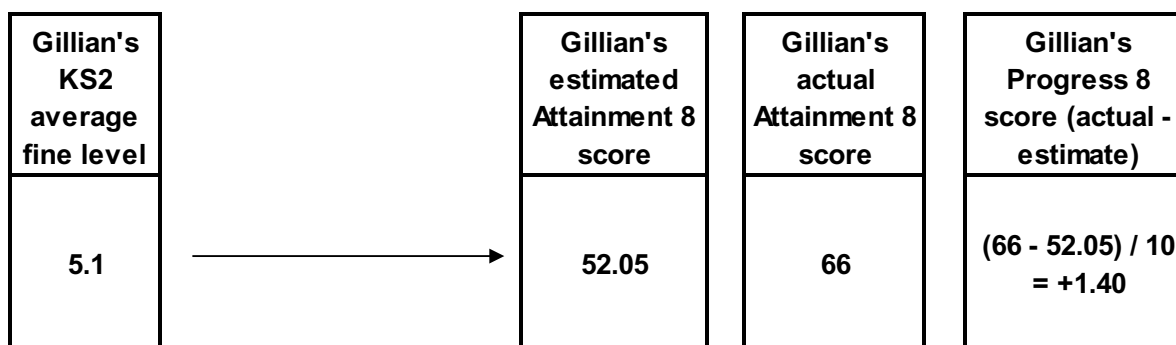
- look up the group that the fine grade resides in

The fine level 5.1 resides in the “Between 2.9 and 5.7” category above and so the . See “Pupil prior attainment calculation for Progress 8” or Annex D for details on correspondence between fine levels and grouped fine levels.

Gillian has an Attainment 8 score of 66. Her key stage 2 grouped fine level was 5.1. The national average revised Attainment 8 score for pupils with Gillian’s key stage 2 results is 52.05 in 2019²¹. Gillian’s Progress 8 score is the difference between her actual

²¹ Using revised data

Attainment 8 score and the estimated Attainment 8 score, divided by 10 that is, $66 - 52.05 = +13.95 / 10 = 1.40$ (to 2 d.p.).



This means that Gillian has achieved an average of almost one and a half of a grade better per subject than other pupils with the same prior attainment.

Calculating a school's Progress 8 score

The school's Progress 8 score is the mean average of its pupils' Progress 8 scores.

Worked Example A – continued

Let us then say that Gillian is one of 142 pupils in her school's key stage 4 cohort, who gain a range of Progress 8 scores:

Pupil #	Pupil name	P8 score
1	A	+1.35
2	B	-0.20
...
142	C	+1.10
Sum		+36.50

So the school's unadjusted Progress 8 score is calculated as $36.50 / 142 = 0.26$

Calculating a school (adjusted) Progress 8 score

At Gillian's school there is a pupil called Stuart, who is the only person in the school with extremely negative Progress 8 score. Stuart's key stage 2 prior attainment was higher than most pupils nationally and has a KS2 fine points score of 5.8. He achieved no attainment 8 points by the end of key stage 4. As a result, his (unadjusted) Progress 8 score is -7.72.

In this hypothetical example, the minimum progress for pupils in Stuart's prior attainment group is -2.74 therefore this extremely negative pupil progress score will be adjusted from -7.72 to -2.74.

Pupil #	Pupil name	Adjusted P8 score
1	Gillian	+1.35
2	Stuart	-2.74
...
142	Hardip	+1.10
Sum		+41.48

So the school's adjusted Progress 8 score is calculated as $41.48/142 = 0.29$. Note that the unadjusted score was **0.26**.

The impact is larger on smaller schools, for example, if there were 50 pupils in this school at the end of key stage 4 at the school then this would raise the school's adjusted Progress 8 score to **0.83**.

Calculating EBacc average point score measure

From 2018 the headline EBacc attainment measure is EBacc average point score (APS).

This measure shows pupils' point scores across the five pillars of the EBacc. The EBacc APS is calculated by allocating points to a pupil's best grades in EBacc subjects using the same rules as the previous EBacc attainment threshold measure, as follows:

- the better grade of either English language or English literature when both subjects are taken
- the grade for maths
- the best two grades from exams taken in science - grades will be taken from the following:
 - if the single sciences option is chosen, three out of four single sciences must be chosen. The best two grades will be taken from these subjects
 - grades for GCSE combined science
- the better grade of either geography or history
- the best grade in a language

These points will be totalled for each pupil, with a zero for any missing pillars, and then divided by six to create an average point score per pupil.²² These scores are added together for all pupils in a school's end of key stage 4 cohort and divided by the number in the cohort, to calculate the EBacc average point score per pupil for each school.

Worked example 1

Table A.3 sets out how the EBacc APS would be calculated for a particular pupil, Sumita, based on her attainment in EBacc subjects.

²²Science grades count in two pillars, meaning a total of six pillars for EBacc APS.

Table A.3: Key stage 4 results for Sumita

ID	Qualification	Grade	Points	Included in the measure	Element	Points used toward EBacc APS
Qc1	GCSE English language	8	8		English	8
Qc2	GCSE English literature	7	7		English	
Qc3	GCSE Maths	5	5		Maths	5
Qc4	GCSE Biology	4	4		Science	
Qc5	GCSE Physics	5	5		Science	
Qc6	GCSE Chemistry	7	7		Science	7
Qc7	GCSE Computer Science	7	7		Science	7
Qc8	GCSE History	5	5		Humanities	5
Qc9	GCSE French	4	4		Languages	4
Qc10	GCSE Religious studies	5	5		None - does not count towards EBacc	

Sumita sat both English language and English literature, so her English score can be used toward her EBacc APS. Her score in the English element was taken from English language as this was her best result. Sumita took a maths GCSE that counts towards the EBacc maths element, so this score is used.

Sumita chose the single sciences option and sat four single sciences, so her science score can be used toward her EBacc APS. Her two highest scoring grades were in GCSE chemistry and GCSE computer science.

Sumita's results for history and French are used toward the humanities and languages elements, respectively. Sumita did not enter for other qualifications in these areas so these points are used. GCSE religious studies does not count toward the EBacc so is not used in the calculation of EBacc APS.

$$\begin{aligned}\text{Total EBacc point score} &= Qc1 + Qc3 + + Qc6 + Qc7 + Qc8 + Qc9 \\ &= 8 + 5 + (7 + 7) + 5 + 4 \\ &= 36\end{aligned}$$

Average EBacc point score =

$$36 \div 6 = 6$$

Worked example 2

Table A.4 sets out how the EBacc APS would be calculated for a particular pupil, Steven, based on his attainment in EBacc subjects.

Table A.4: Key stage 4 results for Steven

ID	Qualification	Grade	Points	Included in the measure	Element	Points used toward EBacc APS
Qd1	GCSE English language	3	3		English	
Qd2	GCSE Maths	5	5		Maths	5
Qd3	GCSE Combined Science	3-3	6		Science	6
Qd4	GCSE German	4	4		Languages	4
Qd5	GCSE Music	4	4		None – does not count towards EBacc	
Qd6	BTEC Travel and Tourism	Distinction	7		None – does not count towards EBacc	

Steven did not sit both English language and English literature, so his English score cannot be used toward his EBacc APS. Steven took GCSE maths, which counts towards the EBacc maths element, so this score can be used.

Steven took GCSE combined science so both grades are used towards EBacc APS. His GCSE German qualification counts towards the EBacc languages element. However, Steven did not take any humanities qualifications so scores a 0 for this element for

EBacc APS. His remaining two qualifications do not count towards EBacc so cannot be included in the calculation.

$$\begin{aligned}\text{Total EBacc point score} &= Qd2 + Qd3 + Qd4 \\ &= 0 \text{ (English)} + 5 + (3 + 3) + 0 \text{ (Humanities)} + 4 \\ &= 15\end{aligned}$$

Average EBacc point score =

$$15 \div 6 = 2.5$$

Calculating a school's EBacc APS score

Let us then say that Steven and Sumita are two of 200 pupils in their school's key stage 4 cohort, each assigned EBacc APS scores:

Pupil #	Pupil name	EBacc APS
1	Sumita	6.0
2	Sarah	5.42
...
200	Steven	2.5
Sum:		912.43

So the school's EBacc APS is calculated as $912.43/200 = 4.56$

Annex B – Point score scales for 2016 and 2017 - 2020

This annex explains the point score scales that are used in 2016 and 2017 - 2020 performance tables.²³

In 2017, new GCSE qualifications in English and maths, graded 9 to 1, were included in performance tables, with others to follow in 2018, 2019 and 2020. Points are allocated to the new GCSEs on a 9 to 1 scale corresponding to the new grades, for example a grade 9 will get 9 points in the performance measures, and so on with a grade 1 getting 1 point.

We allocated performance table points to new GCSEs (9 to 1) in 2017, 2018 and 2019 in line with Ofqual decisions on setting standards for new GCSEs. In September 2014, Ofqual confirmed that:

- the bottom of grade 1 will be aligned with the bottom of grade G
- broadly the same proportion of students will achieve a grade 4 and above as currently achieve a grade C and above; and
- broadly the same proportion of students will achieve a grade 7 and above as achieve an A and above.

We have reflected this in performance table points so that the same points are awarded to a grade G and a grade 1; a grade C and a grade 4; and a grade A and a grade 7. Points for other grades have been allocated between these anchor points.

This is the fairest way of reflecting attainment of pupils working at broadly the same level during this transitional period. From 2019, almost all new GCSEs (9 to 1) will be in place with points awarded on a 9 to 1 scale except for a very small number of languages with smaller cohorts²⁴ which will be first examined in 2020.

The outcomes of Ofqual's consultation on setting grade standards for 2017 GCSE qualifications can be found here: [Setting standards for new GCSEs in 2017](#).

The tables on the following pages contain the 2017 to 2020 performance tables points for level and grade structure combinations. A list of all qualifications which count at key stage 4, and their corresponding performance points is available here: [Key stage 4 qualifications discount codes and point-scores](#).

It is important to note that the key factor in the grade structure is the number of grades – not the names of grades. For example, a pass/merit/distinction/distinction* and a grade C/ grade B/ grade A/ grade A* structure both have four grades.

²³ In 2016, the point score scale for performance table measures changed from the previous 16-58 scale used in 2015 and earlier to a 1-8 scale to begin the transition of points following the introduction of reformed 9 to 1 GCSEs in 2017.

²⁴ Gujarati, Persian, Portuguese, Turkish and Biblical Hebrew.

Table B.1 Point score scales for legacy GCSEs (A*-G)²⁵

GCSE grade	2016 Points	2017 to 2019 Points
A*	8.00	8.50
A	7.00	7.00
B	6.00	5.50
C	5.00	4.00
D	4.00	3.00
E	3.00	2.00
F	2.00	1.50
G	1.00	1.00

Table B.2 Point score scales for combined science qualifications in Attainment 8 and Progress 8

Combined science qualification grade	From 2018 Points
Grade 9-9 (Double Award)	9
Grade 9-8 (Double Award)	8.5
Grade 8-8 (Double Award)	8
Grade 8-7 (Double Award)	7.5
Grade 7-7 (Double Award)	7
Grade 7-6 (Double Award)	6.5
Grade 6-6 (Double Award)	6
Grade 6-5 (Double Award)	5.5
Grade 5-5 (Double Award)	5
Grade 5-4 (Double Award)	4.5
Grade 4-4 (Double Award)	4
Grade 4-3 (Double Award)	3.5

²⁵ The point score scales for legacy GCSEs also apply to academic certificates/international GCSE-style qualifications (AQA, Cambridge International and Pearson Edexcel Level 1/2 certificates), where these still count in performance tables.

Combined science qualification grade	From 2018 Points
Grade 3-3 (Double Award)	3
Grade 3-2 (Double Award)	2.5
Grade 2-2 (Double Award)	2
Grade 2-1 (Double Award)	1.5
Grade 1-1 (Double Award)	1

Table B.3 Point score scales for legacy double award GCSEs (A*A*-GG)

GCSE (double award) grade	2016 Points	2017 and 2018 Points
A*A*	8.00	8.50
A*A	7.50	7.75
AA	7.00	7.00
AB	6.50	6.25
BB	6.00	5.50
BC	5.50	4.75
CC	5.00	4.00
CD	4.50	3.50
DD	4.00	3.00
DE	3.50	2.50
EE	3.00	2.00
EF	2.50	1.75
FF	2.00	1.50
FG	1.50	1.25
GG	1.00	1.00

Table B.4 Point score scales for level 1 qualifications

Level 1 grade structure	Example grade	2016 Points	2017 to 2019 Points
7 grade scheme	DD	4.00	3.00
	DE	3.50	2.50
	EE	3.00	2.00
	EF	2.50	1.75
	FF	2.00	1.50
	FG	1.50	1.25
	GG	1.00	1.00
5 grade scheme	A	4.00	3.00
	B	3.25	2.25
	C	2.50	1.75
	D	1.75	1.38
	E	1.00	1.00
4 grade scheme	D	4.00	3.00
	E	3.00	2.00
	F	2.00	1.50
	G	1.00	1.00
3 grade scheme	Distinction	4.00	3.00
	Merit	3.00	2.00
	Pass	1.50	1.25
2 grade scheme ²⁶	Advanced Credit	N/A	2.5
	Credit	N/A	1.25
Pass only	Pass	2.50	1.75

²⁶ This grade scheme was new from 2018 performance tables and therefore has no equivalent 2016 points.

Table B.5 Point score scales for level 2 qualifications

Level 2 grade structure	Example grade	2016 Points	2017 to 2019 Points
8 grade scheme	A*A*	8.00	8.50
	A*A	7.50	7.75
	AA	7.00	7.00
	AB	6.50	6.25
	BB	6.00	5.50
	BC	5.50	4.75
	CC	5.00	4.00
	CD	4.50	3.50
7 grade scheme	Distinction* Distinction*	8.00	8.50
	Distinction* Distinction	7.50	7.75
	Distinction Distinction	7.00	7.00
	Distinction Merit	6.50	6.25
	Merit Merit	6.00	5.50
	Merit Pass	5.50	4.75
	Pass Pass	5.00	4.00
5 grade scheme	A	7.00	7.00
	B	6.50	6.25
	C	6.00	5.50
	D	5.50	4.75
	E	5.00	4.00
4 grade scheme	A*	8.00	8.50
	A	7.00	7.00
	B	6.00	5.50
	C	5.00	4.00
3 grade scheme	Distinction	7.50	7.75
	Merit	6.50	6.25
	Pass	5.00	4.00
Pass only	Pass	6.00	5.50

Table B.6 Point score scales for AS levels and double AS levels

AS level grade	2016 Points	From 2017 Points
A	9.50	10.75
B	8.25	8.88
C	7.00	7.00
D	5.75	5.13
E	4.50	3.50

Double AS levels grade	2016 Points	From 2017 Points
AA	9.50	10.75
BA	8.88	9.82
BB	8.25	8.88
CB	7.63	7.95
CC	7.00	7.00
DC	6.38	6.07
DD	5.75	5.13
ED	5.13	4.20
EE	4.50	3.50

Table B.7 Point score scales for graded music examinations

Graded music level	Grade	2016 Points	From 2017 Points
Grade 8	Distinction	8.00	8.50
	Merit	8.00	8.50
	Pass	8.00	8.50
Grade 7	Distinction	8.00	8.50
	Merit	8.00	8.50
	Pass	7.00	7.00
Grade 6	Distinction	8.00	8.50
	Merit	8.00	8.50
	Pass	7.00	7.00

Table B.8 Point score scales for free standing maths qualifications

Free standing maths qualification grade	2016 Points	2017 to 2020 Points
A	5.75	5.13
B	5.00	4.00
C	4.25	3.25
D	3.50	2.50
E	2.75	1.88

Illustrative examples of how to use these tables – points for all qualifications can be calculated following this method

Example A - Calculating the points for a level 2 qualification with four passing grades

These qualifications are at level 2, so table B.5 should be used.

There are four possible passing grades (C/B/A/A*), so the 4 grade scheme should be used. The 2017 - 2019 column of Table B.5 gives points of 4, 5.5, 7 and 8.5.

The table below shows the 2018 points for a level 2 qualification with four passing grades:

Table B.9 Point score scales for level 2 qualification with four passing grades

Level 2 qualification with four passing grades	Points
A*	8.50
A	7.00
B	5.50
C	4.00

The Performance Points a Practical Guide document provides a step by step guidance on points: [Performance points: a practical guide to key stage 4 and 5 points](#)

Example B - Calculating the points for a BTEC First Award

BTEC First Awards can be both level 1 and level 2 qualifications.

At level 1, there is a pass only grade structure, and the 2017 column of Table B.4 gives the points of 1.75.

At level 2 in a BTEC First Award there are four possible outcomes Distinction*/Distinction/Merit/Pass which makes for a 4 grade structure, and the 2017 column of Table B.5 gives the points of between 4.00 and 8.50.

The table below shows the point score scales for the BTEC First Award:

Table B.10 Point score scales for BTEC First Award

BTEC First Award grade	Points
Level 2 Distinction*	8.50
Level 2 Distinction	7.00
Level 2 Merit	5.50
Level 2 Pass	4.00
Level 1 Pass	1.75

Example C - Calculating the points for an OCR Cambridge National Certificate

OCR Cambridge National Certificates can be both level 1 and level 2 qualifications.

Grades level 1 distinction/ level 1 merit/ level 1 pass are at level 1, which makes for a 3-grade structure, and the 2017 column of Table B.4 gives the points of between 1.25 and 3.

Grades level 2 distinction*/ level 2 distinction/ level 2 merit/ level 2 pass are at level 2, which makes for a 4 grade structure, and the 2017 column of Table B.5 gives the points of between 4 and 8.5.

The table below shows the point scores for the OCR Cambridge National Certificate:

Table B.11 Point score scales for OCR Cambridge National Certificate

OCR Cambridge National Certificate grade	Points
Level 2 Distinction*	8.50
Level 2 Distinction	7.00
Level 2 Merit	5.50
Level 2 Pass	4.00
Level 1 Distinction	3.00
Level 1 Merit	2.00
Level 1 Pass	1.25

Point scores for other qualifications can be calculated using a similar method as in examples A, B and C above.

Annex C – Revised 2019 Attainment 8 averages and average number of EBacc and open slots filled

Each Attainment 8 average is the average Attainment 8 score of all pupils nationally with the same prior attainment at key stage 2. The following table shows the revised Attainment 8 averages for each key stage 2 average fine level, based on the 2019 cohort averages.

It also shows the average number of EBacc and open slots filled in Attainment 8 by pupils nationally for each KS2 fine level.

Changes to national subject entry patterns, point values for GCSE and other qualifications, changes to key stage 2 assessments and performance will cause these averages to change in future years, as they will be derived from later cohorts. As such it is very unwise to extrapolate to cohorts beyond 2019.

Table C.1 Revised 2019 Attainment 8 average and average number of EBacc and open slots filled (out of 3) in Attainment 8 for each KS2 fine level

KS2 fine level	Attainment 8 average	English average	Maths average	EBacc average	Open average	Average number of EBacc slots filled (out of 3)	Average number of open slots filled (out of 3)
1.5	15.13	3.28	2.25	4.29	5.31	1.48	1.74
2	17.24	3.93	2.52	4.63	6.17	1.83	2.13
2.5	17.49	4.28	2.29	4.56	6.36	2.08	2.3
2.8	18.29	4.61	2.48	4.53	6.66	2.27	2.42
2.9	19.81	4.77	3.04	4.97	7.01	2.31	2.48
3	20.65	4.97	3.1	5.27	7.3	2.33	2.47
3.1	21.63	5.12	3.46	5.46	7.59	2.39	2.56
3.2	22.44	5.36	3.63	5.68	7.78	2.44	2.58
3.3	23.12	5.51	3.73	5.88	8	2.47	2.57
3.4	23.97	5.65	3.96	6.15	8.21	2.5	2.61
3.5	24.87	5.89	4.07	6.36	8.55	2.5	2.63
3.6	25.66	6.08	4.22	6.59	8.78	2.56	2.69
3.7	26.54	6.33	4.38	6.81	9.02	2.59	2.69
3.8	27.43	6.5	4.55	7.06	9.32	2.63	2.71
3.9	28.97	6.83	4.92	7.51	9.71	2.65	2.72
4	30	6.98	5.23	7.83	9.96	2.68	2.73
4.1	31.27	7.26	5.49	8.18	10.33	2.71	2.77
4.2	32.88	7.57	5.89	8.69	10.73	2.73	2.79
4.3	34.2	7.8	6.26	9.08	11.07	2.75	2.8
4.4	36.02	8.15	6.68	9.66	11.52	2.78	2.82
4.5	37.68	8.45	7.06	10.19	11.98	2.8	2.84
4.6	39.76	8.85	7.52	10.88	12.52	2.83	2.86

KS2 fine level	Attainment 8 average	English average	Maths average	EBacc average	Open average	Average number of EBacc slots filled (out of 3)	Average number of open slots filled (out of 3)
4.7	41.93	9.27	7.97	11.61	13.08	2.84	2.88
4.8	44.25	9.7	8.47	12.38	13.7	2.87	2.9
4.9	46.51	10.13	8.94	13.17	14.27	2.88	2.91
5	49.19	10.6	9.52	14.11	14.96	2.9	2.92
5.1	52.05	11.1	10.15	15.11	15.69	2.92	2.94
5.2	54.85	11.56	10.84	16.09	16.37	2.93	2.94
5.3	58.09	12.03	11.67	17.22	17.17	2.95	2.95
5.4	61.6	12.61	12.45	18.44	18.1	2.96	2.96
5.5	65.28	13.21	13.32	19.7	19.05	2.97	2.97
5.6	69.67	13.91	14.27	21.2	20.28	2.98	2.98
5.7	74.31	14.71	15.23	22.76	21.61	2.98	2.98
5.8	79.19	15.58	16.15	24.32	23.14	2.99	2.98

Source: 2018/19 key stage 4 revised attainment data

Scores are currently grouped according to the following conditions²⁷:

- pupils with mean key stage 2 fine grade score of ≤ 1.5 are assigned a key stage 2 score of 1.5
- pupils with mean key stage 2 fine grade score between 1.6 and 2.0 are assigned a key stage 2 score of 2.0
- pupils with mean key stage 2 fine grade score between 2.1 and 2.5 are assigned a key stage 2 score of 2.5
- pupils with mean key stage 2 fine grade score between 2.6 and 2.8 are assigned a key stage 2 score of 2.8
- pupils with mean key stage 2 fine grade score of ≥ 5.8 are assigned a key stage 2 score of 5.8

²⁷ Scores are grouped at the extreme ends of the prior attainment distribution because without grouping there would only be small numbers of pupils with the scores, so increasing the size of the groups reduces volatility of the estimates

Annex D – Key stage 2 results used to calculate prior attainment

From 2017 onwards, reading and maths test results only will be used in calculating key stage 2 prior attainment fine levels for use in Progress 8. This is because since 2012 primary schools have used a form of teacher assessment in writing at key stage 2 that does not map easily to test scores.

Level 6 tests taken by pupils completing key stage 2 from 2012 onwards (who will reach the end of key stage 4 in 2017 and beyond) will not be used in the calculation of the fine level used as prior attainment in Progress 8, as the use of these tests varies between schools, instead the level 3-5 test will be used.

Adjustments are made for pupils with incomplete test results:

- if a pupil does not have a test result in a subject then their teacher assessment level is used (see table below)
- if a pupil has a result (test or teacher assessment) missing in one subject, then prior attainment is calculated from the remaining subject
- if a pupil does not have a test score or teacher assessment result in any subject then they are excluded from the measure

Grouped key stage 2 fine grades are the prior attainment result used to estimate a pupil's Attainment 8 score. They are based on the marks that pupils achieved in their end of key stage 2 assessment. Fine grades use the underlying marks data to create a finer measure.

The following set of rules is used to convert test marks to fine grades for reading and maths. These rules also take into account situations where a pupil's assigned level for their reading or maths test is not consistent with the mark they receive for example where a pupil was ill during the test.

- If test level = 3, 4 or 5 then:
 - If main test mark exists and is consistent with level, then:

Fine Grade = _____

- If main test mark exists and is **not** consistent with level:
 - If the level is higher than the mark then:
Fine Grade = Test level (3.0, 4.0 or 5.0).
 - If the level is lower than the mark then the fine grade is obtained from the maximum mark in that level, using:
 -

$$\text{Fine Grade} = \frac{\text{---} - \text{---}}{\text{---} + \text{---}}$$

- If test level = 2 and TA is 3+ then:
- If main test mark exists and is consistent with level, then the difference in fine grade of one mark is extended from level 3 range.

$$\text{Fine Grade} = - \left\{ \frac{\text{---} - \text{---}}{\text{---} + \text{---}} \right\}$$

- If main test mark does not exist, then we assign the pupil the middle mark of the compensatory level 2 range. If the main test mark is lower than the minimum mark for the compensatory level 2 range then we assign the minimum mark of the compensatory level 2 range and if the main test mark is higher than the minimum mark for the compensatory level 2 range then we assign the maximum of the compensatory level 2 range. Then we apply the above algorithm.

3-5		
Use pupil's fine points score		
2	If teacher assessment available, use;	Award: W = 0.5 Level 1 = 1.5 Level 2 = 2.5 Any higher = use formula as given on page 27 A,D,F,L,P,W,Z = Exclude pupil
	If no teacher assessment available	Exclude Pupil
B, N	If teacher assessment available, use;	Award: W = 0.5 Level 1 = 1.5 Level 2 = 2.5 Any higher = 2.5 (capped) A,D,F,L,P,Z = Exclude pupil
	If no teacher assessment available	Exclude Pupil
A, F, L, M, P, Q, S, T, W, X	If teacher assessment available, use;	Award: W = 0.5 Level 1 = 1.5 Level 2 = 2.5 Level 3 = 3.5 Level 4 = 4.5 Level 5 = 5.5 Any higher = 5.5 (capped) A,D,F,L,P,Z = Exclude pupil

3-5	Use pupil's fine points score	
	If no teacher assessment available	Exclude Pupil

Once fine levels are calculated they are grouped at the extremities of the key stage 2 prior attainment distribution to ensure that prior attainment groups are sufficiently large for estimates of attainment 8. The grouped key stage 2 fine levels are as follows:

KS2 fine level	KS2 grouped fine level
Up to 1.5	1.5
Between 1.6 and 2.0	2
Between 2.1 and 2.5	2.5
Between 2.6 and 2.8	2.8
Between 2.9 and 5.7	KS2 fine grade
At least 5.8	5.8

Annex E – Prior Attainment Group thresholds for pupils with extremely negative progress scores

Adjusting extremely negative progress scores, number of standard deviations and prior attainment group thresholds

The threshold score applied to the pupil's progress score is dependent on the prior attainment group that the pupil is in²⁸. To work these thresholds out:

The **first step** is to calculate the mean and standard deviation of Progress 8 scores within each prior attainment group.

The **second step** to ascertain the number of standard deviations each pupil's progress 8 score is from their prior attainment group average.

The **third step** is to order the numbers of standard deviations from step two from low to high and select the number of standard deviations such that about 1% of pupils nationally²⁹ are below this value. In 2019 this number is -2.766514, to 6 decimal places.

The **fourth step** is to multiply the standard deviations found in the **first step** with the results from the third step to give the threshold for each prior attainment group – the minimum score for that prior attainment group.

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

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

²⁸ Set at the provisional data stage, based on mainstream provision.

²⁹ of pupils who are included in Progress 8

Table E.1 Minimum scores in 2019

Prior Attainment Group	Key stage 2 average fine level	Minimum threshold for adjusted Progress 8
1-18		N/A
19	≥ 4.25 and < 4.35	-3.511
20	≥ 4.35 and < 4.45	-3.576
21	≥ 4.45 and < 4.55	-3.609
22	≥ 4.55 and < 4.65	-3.655
23	≥ 4.65 and < 4.75	-3.706
24	≥ 4.75 and < 4.85	-3.723
25	≥ 4.85 and < 4.95	-3.778
26	≥ 4.95 and < 5.05	-3.800
27	≥ 5.05 and < 5.15	-3.778
28	≥ 5.15 and < 5.25	-3.844
29	≥ 5.25 and < 5.35	-3.781
30	≥ 5.35 and < 5.45	-3.732
31	≥ 5.45 and < 5.55	-3.649
32	≥ 5.55 and < 5.65	-3.503
33	≥ 5.65 and < 5.75	-3.240
34	≥ 5.75	-2.921

Schools can use the table above to see which prior attainment group a pupil will have been allocated to depending on their key stage 2 average fine level, and what the lowest score they can be allocated in 2019 is.

Not all prior attainment groups have extremely negative scores. This is because in the average Attainment 8 score for pupils in the lowest prior attainment groups will be relatively low, for example in prior attainment group 1 (fine levels up to 1.5), the average Attainment 8 score was 15.0, whereas for prior attainment group 34 (fine levels of at least 5.8), the average Attainment 8 score was 79.0. So a pupil doing very badly in group 34 can get an extremely negative score (e.g -7.9), whereas the lowest score a pupil in group 1 can get is -1.5. In short, it is pupils in the middle to higher prior attainment groups that can gain a Progress 8 score that is so far below those for others with similar prior attainment that it has a disproportionate impact on the school's score. There is, in effect, already a minimum possible score for the lower groups.

As set out in the table above, the lowest prior attainment groups (1-18) have minimum scores that are above the threshold for that prior attainment group, due to no pupils having scores extreme enough to be below the threshold. The middle to higher prior attainment groups (19-34) have pupils with extreme progress scores below the threshold. These are the only prior attainment groups where pupils' scores have been changed by this methodology.

Annex F – Confidence Intervals

A 95% confidence interval is calculated around each school's Progress 8 score, providing a proxy for the range of values within which we are statistically confident that the true value of the Progress 8 score for the school lies.

The confidence interval, denoted $[\quad]$, is given by the formula:

$$\left[\begin{array}{c} \vdots \\ \vdots \\ \vdots \end{array} \right] = \left[\begin{array}{c} - \\ - \\ + \end{array} \right],$$

where:

	is the lower confidence limit for the school's Progress 8 score
	is the upper confidence limit for the school's Progress 8 score
	is the school's Progress 8 score
	is the size of the confidence interval for the school's Progress 8 score

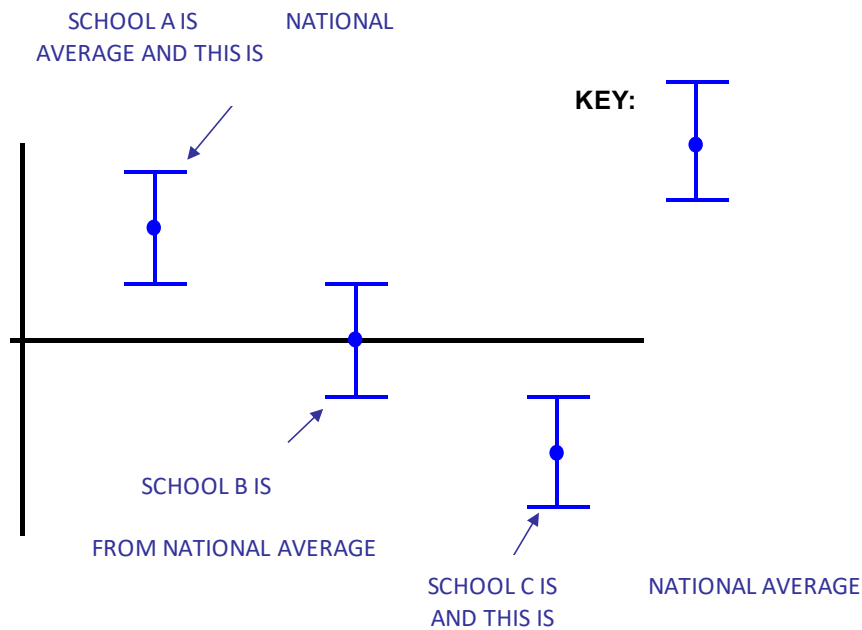
$$= \frac{\sigma}{\sqrt{2}}$$

where:

1.96	is the critical value for a 95% confidence interval;
	is the standard deviation of the Progress 8 scores for all eligible pupils <u>nationally</u> ;
	is the number of eligible pupils that belong to the school

The national average Progress 8 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 ($\text{lower limit} > 0$), the school's Progress 8 score is above average and the result is statistically significant
- when a school has their upper confidence interval limit lower than zero ($\text{upper limit} < 0$), the school's Progress 8 score is below average and the result is statistically significant
- in the other case when the confidence interval straddles zero ($\text{lower limit} < 0 < \text{upper limit}$), the school's Progress 8 score is likely to be above or below average, and the result is not statistically significant



Worked example A – continued

We can calculate the size of the confidence interval for the school's Progress 8 score using :

$$= \times \frac{\sigma}{\sqrt{n}} = \times \sqrt{\frac{\sigma^2}{n}} = \times \sqrt{\frac{1.5^2}{100}} = \times \sqrt{0.0225} = \times 0.15 =$$

We derive the confidence interval for the school's Progress 8 score:

As $0.15 > 0$, we can say that the school's Progress 8 score is above the national average Progress 8 score, and say this result is statistically significant.

Standard deviation of all Progress 8 scores and Progress 8 element scores nationally

The below standard deviations are based on the Progress 8 scores of all eligible pupils at mainstream schools and are the national figures used in confidence interval calculations.

Table F1: 2017, 2018 and revised 2019 standard deviations of Progress 8 and Progress 8 element scores nationally

Measure	Revised 2017	Revised 2018	Revised 2019
Progress 8	1.229722	1.262617	1.282479
Progress 8 English element	1.542787	1.538146	1.546113
Progress 8 Maths element	1.397587	1.371335	1.365617
Progress 8 EBacc element	1.449435	1.512625	1.526479
Progress 8 Open element	1.429360	1.478238	1.511807

Source: 2016/17, 2017/18 & 2018/19 (revised) key stage 4 attainment data

Annex G – English in the headline performance measures

Headline Performance Measure	English Requirement
Progress 8 and Attainment 8	If a pupil sits both English language and English literature, the higher grade is double-weighted. The lower grade can count in the 'open' element of these measures. If only GCSE English literature or English language is taken then this qualification will count but will not be double-weighted.
EBacc average point score (EBacc APS)	For English results to be included in the EBacc APS calculation, pupils must sit both English language and English literature. The better grade counts towards EBacc APS.
Attainment in English and maths at grade 5 or above	A pupil would have to achieve a grade 5 or above in either English literature or English language. There is no requirement to sit both.

The department also publishes as an additional measure the percentage of pupils achieving a grade 4 or above in English and maths (see page 56). The same English requirements apply to this measure as for English and maths at grade 5 or above.

Annex H – Timeline for new GCSEs

From 2017 the only GCSEs that count in these subjects are the new GCSEs graded 9 to 1:

New GCSEs
English literature
English language
Maths

From 2018 the only GCSEs that count in these subjects are the new GCSEs, graded 9 to 1. As well as the new GCSEs in English language, English literature and maths listed above this will include:

EBacc Subjects	Other subjects
Biology	Art and design
Chemistry	Citizenship studies
Classical Greek	Dance
Combined science (Double award)	Drama
Computer Science	Food preparation and nutrition
French	Music
Geography	Physical education
German	Religious studies
History	
Latin	
Physics	
Spanish	

From 2019 the only GCSEs that will count in these subjects will be the new GCSEs graded 9 to 1. As well as those listed above this will include:

EBacc Subjects	Other subjects
Ancient History	Astronomy
Arabic	Business
Bengali	Classical civilisation
Chinese	Design and technology
Italian	Economics
Japanese	Electronics
Modern Greek	Engineering
Modern Hebrew	Film studies
Panjabi	Geology
Polish	Media studies
Russian	Psychology
Urdu	Sociology
	Statistics

In 2020 the only GCSEs that will count in these subjects will be the new GCSEs graded 9 to 1. As well as those listed above this will include:

EBacc Subjects
Biblical Hebrew
Gujarati
Persian
Portuguese
Turkish

Please note that in 2018, 2019 and 2020, no legacy GCSEs (A*-G), international GCSEs or level 1/level 2 certificates in these subjects will count in performance tables as new GCSEs are introduced.

Annex I – Other additional measures

As outlined in the 2019 performance tables statement of intent, some additional measures are also published. These are outlined in the box below.

Additional measures	Methodology
The proportion of pupils achieving a grade 4 or above in English and maths	For transparency and to help schools show progress, the headline threshold attainment measure in English and maths is also published at grade 4 and above. This measure has the same methodology as its headline counterpart regarding qualification inclusion and requirements. The additional measure shows where pupils achieved a grade 4 or above in GCSE English language or English literature and maths.
The proportion of pupils achieving the EBacc at grade 5/C or above and grade 4/C and above.	Following the introduction of EBacc APS in 2018, the EBacc attainment threshold measure is no longer a headline measure. We will continue to publish as additional measures the proportion of pupils achieving the EBacc at grade 5/C and above, and at grade 4/C and above.
Average number of EBacc slots filled in Attainment 8 at school level	To help schools understand their EBacc entry rates in more detail, the number of EBacc slots filled per pupil within a school divided by the total number of pupils at the end of key stage 4 within the school. The number of EBacc slots filled per pupil is calculated according to Attainment 8 methodology outlined earlier in the guidance.
Average number of open slots filled in Attainment 8 at school level	The number of Open slots filled per pupil within a school divided by the total number of pupils at the end of key stage 4 within the school. The number of Open slots filled per pupil is calculated according to Attainment 8 methodology outlined earlier in the guidance.
Pupils achieving 5 or more GCSEs at grade 4 or above	The grade changes from 2017 onwards mean it is no longer possible to calculate the previous headline measure, 5+ A*-C grades including English and maths, and this measure will therefore not appear in the performance tables. Data for this

Additional measures	Methodology
	<p data-bbox="678 232 1412 309">new measure is made available in the download data file on the school performance tables website.</p> <p data-bbox="678 349 1393 472">This measure is calculated as per 5+ A*-C grades including English and maths in 2016 with the following differences:</p> <ul data-bbox="738 517 1399 994" style="list-style-type: none"> <li data-bbox="738 517 1374 640">• The attainment threshold is set to include those who achieve a grade 4 or above in reformed GCSEs <li data-bbox="738 651 1399 904">• The English requirement mirrors the standard pass in English and maths measure – a pupil would have to achieve a grade 4 or above in English literature or English language. There is no requirement to sit both. <li data-bbox="738 916 1321 994">• The combined science qualification is counted as one GCSE <p data-bbox="678 1039 1399 1249">To note, this additional measure is published for transparency and is no longer a headline measure or used for school accountability purposes. When considering attainment at KS4, the 2019 headline measures should be used.</p>



Department
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