

**GCSE 2019
TRENDS & PROSPECTS**

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Summary

Girls hold a massive lead over boys in GCSE grades. This opened up when the exam replaced O-levels. Gove's reforms to GCSEs, which near completion in 2019, make them more like the old O-levels.

Results in 2018 suggest that there will be some impact on the gender gap. Of the 15 reformed GCSEs examined wholly or mainly by an exam at the end, all but one – religious studies – showed relative improvement by boys at grade 7 & above compared with the last full year of the old GCSEs in 2016.

In some cases the swings were large. In physics, it was 6.1 percentage points, with boys overtaking girls. In chemistry, the relative improvement was 5.5 pp, in classical subjects, 4.1 pp, and in biology, citizenship studies, and geography it was 3 pp or more (Charts 4.3 and 4.4).

In contrast, in four of the five subjects retaining over 40% of coursework, there was no gain by boys. The exception is the new GCSE in dance which attracts very few boys. Outnumbered by over 12 to 1, they must be very sure of themselves.

Eleven of the 15 reformed GCSEs taken for the first time in 2019 are also wholly or mainly examined at the end, so if the results of 2018 are repeated we will see boys biting further into girls' substantial lead in the top grades. At present, however, boys are ahead in only two of the mainstream subjects – maths and physics.

The relative improvement only shows up in the top grades, with girls retaining their huge advantage of 9 percentage point at grade 4 and above.

In 2019 grades are likely to be close to what they were last year, because Ofqual wants them to be that way. Grades fell slightly from the peak of 2011, which prompted the regulator to take control of them, till 2017 when, following the introduction of the new tougher exams, they began to rise again.

The results of the new National Reference Test were used for the first time in 2019 to adjust grades. In previous years, scores on the NRT have risen, so it may be that grades will go up again.

The overall grades are a composite of those achieved in different subjects, by boys and girls, by different age groups, and in different parts of the UK. They each affect overall outcomes, but to different extents depending on their size.

There is a wide range in the grades awarded in the different subjects. Those in English and maths are among the lowest, partly because everyone has to sit them, but also because over a fifth of the candidates are having to re-take them and their results are very poor.

The subjects with the highest grades are the selective subjects taken by candidates with some advantage: 'other modern languages' (spoken in the home); classical subjects (independent and grammar schools); and biology, chemistry and physics rather than combined science (top sets).

The subjects taken by the age groups differed considerably in 2018. The 16-year-olds mainly took EBacc subjects. Young entrants mainly took subjects like maths and ‘other modern languages’ in which they had made rapid progress. Older entrants were mainly enforced re-takes.

In the thirty years since the inception of the GCSE, entries have been mainly stable, with a backbone of maths, English, English literature, geography, and history, together with science and art & design in their various forms.

French, German and design & technology have plummeted since they ceased to be a compulsory part of Key Stage 4. Spanish has bucked the trend, increasing its intake fourfold over the past 30 years, but from a very low base.

Biology, chemistry and physics have bounced back from near extinction when the 1988 National Curriculum replaced them with combined science. But even though entries have been rising they are still substantially below what they were thirty years ago.

The direction of change has been driven by the EBacc, an accountability measure which specifies a core of subjects. Provisional entries for 2019 in England show an increase of 3.7% in these subjects over and above what has already taken place. The decline in other subjects has been higher at 9.5%, because this figure includes subjects that have been discontinued.

GCSEs in England, Wales and Northern Ireland, although sharing the same names, are growing increasingly apart. Grades in Northern Ireland have been considerably and consistently above those in England and Wales. This gap may, however, narrow somewhat in 2019 as, for the first time, a scale including a C* is applied. The extra grade is likely to reduce the percentage of A* which is now to be aligned to grade 9.

The headline figures published on results day are an amalgam of all these components. England has the biggest say because it accounts for 92% of the entries. About three per cent are in Northern Ireland and five per cent in Wales.

What then are the prospects for 2019?

The grade pattern is likely to remain similar to that of last year, with over a fifth getting top grades and about two-thirds passing. The National Reference Test has been used the first time this year and its scores are said to have risen, so GCSE grades are also likely to go up, but only by a small amount.

Northern Ireland is such a small part of the overall total that the likely reduction in top grades there as a result of the adaptation of its scale is unlikely to affect the overall picture by very much.

In 2019, 11 more GCSEs with end-of-course examinations have been rolled out, adding to the 14 already in place. If they behave like those in 2018 did, then boys will make further inroads into girls’ lead in the top grades.

- Not all subjects are offered by the exam boards of each country. Ancient history will be offered by the English boards only. The NI board is alone in offering ‘agriculture and land use’. Applied science (single and double awards) will be offered only by the Welsh board.
- In England, assessment will be mainly by examination at the end of courses; in Wales and NI there will be a mixture of unitised and linear courses depending on the subject.
- For the new linear courses re-sits involve re-taking the whole examination (although continuous assessment marks may be used again); for unitised courses in Wales and NI each unit can be re-taken but only once.

England

1.4 In England the main changes brought about by the reforms are:

- more demanding content;
- designed for a two-year course of study;
- examinations at end of the courses;
- assessment other than by exam allowed only where necessary to reflect the nature of a particular subject, for example, in art and design, dance, drama, music and physical education;
- new grading scale running from 9 (top) to 1, with U as the fail grade;
- combined science which is a double award can have 17 outcomes ranging from 9-9, 9-8 to 1-1;
- re-sits will be available in November for English and maths only, the whole examination having to be taken again.

Accountability

1.5 GCSE results are as important to schools as to the pupils. The schools are judged on the pupils’ performance. If the results fall below expectations there could be serious consequences for the school. Not surprisingly, the schools direct the pupils’ energies to achieving the best scores possible on whatever the main accountability measure happens to be. These can, therefore, have a considerable bearing on entries and the results to emerge.

English Baccalaureate

1.6 In order to promote breadth, the government requires schools to report on how many of their Year 11 pupils are taking a combination of GCSEs which it has designated the English Baccalaureate. This consists of English, maths, two sciences, history or geography, and a language. It was the government’s ambition that, by 2015, 90% of GCSE pupils would be entered subjects included in the EBacc.

1.7 From 2018 onwards pupils’ performance has been turned into a score based on a school’s average point score. A pupil’s average point score is the average of the

points scored in the five subject areas. Both English language and English literature must be taken to count towards the English score. In science there are two options: the double-award combined science; or three subjects from biology, chemistry, computer science and physics.

Progress 8 and Attainment 8

- 1.8 Since 2016 the main accountability measure has been broadened to become Attainment 8 and Progress 8. The change from five A*-C grades, including maths and English, as the measure is intended to nudge schools toward a broader curriculum. Progress 8 and Attainment 8 are based on eight subjects. Taking a minimum of eight is not compulsory, but any missing will be scored zero. There are three specified groups from which subjects are chosen:
- English and maths, which are double-weighted in scoring;
 - Three other EBacc subjects from the sciences, computer science, geography, history and languages;
 - Three more subjects which may be EBacc subjects or can be any other GCSEs or approved arts, academic or vocational qualifications.
- 1.9 Attainment 8 will report the performance and Progress 8 the progress made by the pupils compared to the national average of pupils with similar SATs results.

Comparable Outcomes

- 1.10 Since 2011, Ofqual, the regulator in England, has acted to keep the grade pattern consistent over time, adjusting for prior attainment. The composition of the cohort can change quite markedly from year to year. Many schools, for example, transferred their pupils from the national GCSE in English to the international GCSE when the internal assessment component of the national award was dropped in 2014. The IGCSE retained it and thereby attracted entries from many schools. But when, from 2018, this no longer counted in the league tables they switched back again.
- 1.11 Unlike A-levels, there has been a recalibration of the grade scale for GCSEs so there was the opportunity to allow the new grades to find their own level. But Ofqual has foregone this opportunity and decided to peg the new grade 7 to the old grade A, with A* being split into grades 8 and 9. It was originally intended that the new grade 5 would equate to the C grade, but this was reconsidered and it was aligned instead to grade 4. The change leaves some ambiguity as grade 5 is now spoken of as a strong pass.

National Reference Test

- 1.12 In 2016, Ofqual began piloting a National Reference Test. The first live testing was carried out in 2017 when the scores were aligned with the GCSE results in maths and English that year. These scores are to be used as the baseline for subsequent years. The NRT is primarily intended to be a measure of the prior attainment of the candidate cohorts in GCSE maths and English. Currently, the SATs results at the end of primary school are used, but they are five years old and do not allow for the progress made in secondary school. It was felt, therefore, that something taken closer to the GCSE

exams was needed. The NRT will also be used to monitor the performance of the education system as a whole.

- 1.13 The NRT consists of maths and English questions which it is intended to keep the same from year by year. It is administered by the National Foundation for Educational Research to Year 11 pupils in a representative sample of 350 schools between late February and early March each year. In 2019, the NRT results for the first time will have been used to adjust the GCSE grades in maths and English, and they will be published alongside them on results-day in August.
- 1.14 The fact that the NRT has been designed as an achievement test in English and maths rather than a more general measure suggests some confusion of purpose. If it is mainly to monitor the education system's performance in the two subjects, then an achievement test is appropriate. But if it is about adjusting grades across the spectrum, then a more general test of capability would seem to be needed. Whether or not to apply the NRT results to subjects other than maths and English highlights the issue.

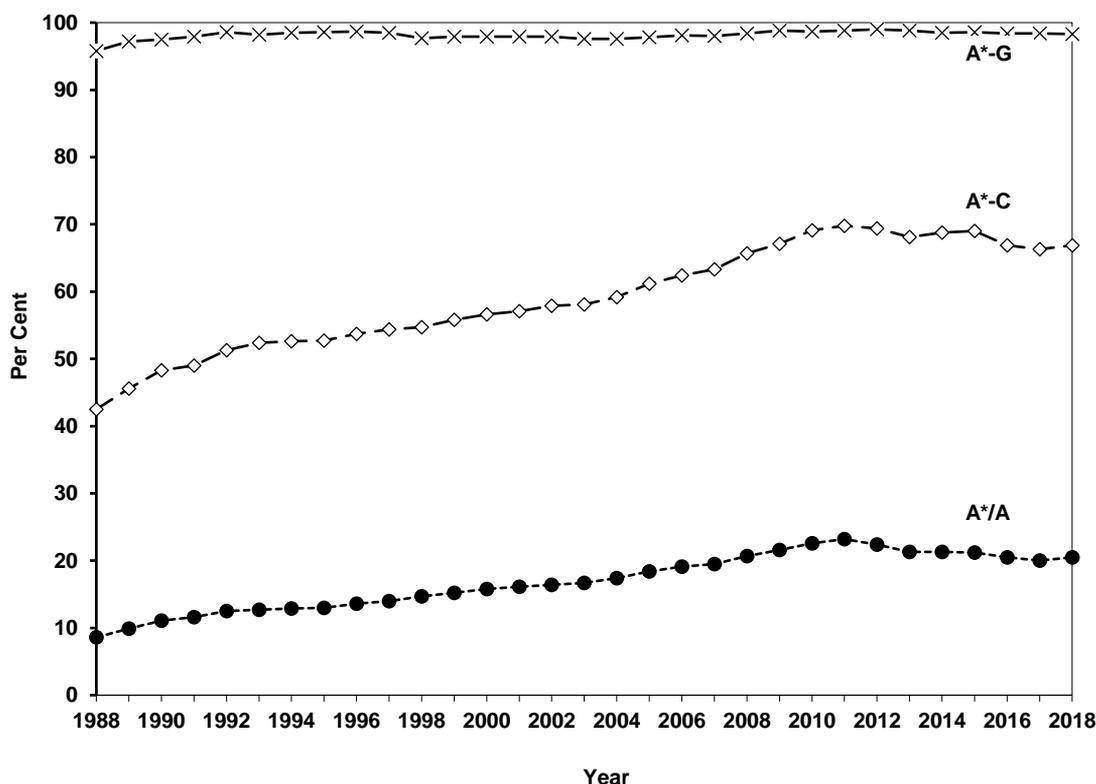
Re-takes

- 1.15 Since August 2015 any student with a D/3 or below in English and/or maths has had to re-take them until they pass in order to be eligible for funding until they reach the age of 18. Passes are also necessary to complete apprenticeships. This has swollen the numbers entered for the English language and maths exams after Year 11. We look at this in detail in Chapter 5. There we show that the influx of repeaters post-16 has considerably lowered the pass rates in these subjects, so that in the overall results English and maths come out with among the subjects with the lowest grades.

2. Trends 1988-2018

- 2.1 Since Ofqual adopted the comparable outcomes approach in 2011, in an attempt to squeeze out the rampant inflation, grades have eased somewhat. Chart 2.1 shows the trends since GCSE's inception in 1988. What is striking is that there was a seemingly inexorable rise in the grades from the first year through to 2011. The percentage of A* grades (first awarded in 1994) went up from 2.9 to 7.8, A*/A from 8.6 to 23.2, A*-C from 42.5 to 69.8 and A*-G from 95.8 to 98.8. But from 2012 onwards the newly-formed Ofqual's controls began to take effect. But, implicitly, it has taken the highly inflated grades of 2011 as the ones to which to keep close.
- 2.2 In the event, as Chart 2.1 shows, this approach has led to a drift down from the peaks of 2011. By 2017, A*/A had fallen by 3.2 percentage points, A*-C by 3.5 percentage points, and A*-G by 0.4 percentage points. But in 2018, with 23 of the new tougher GCSEs rolled out, somewhat surprisingly the grades began to rise again. Counting a grade 7 and above as the equivalent of A*/A and grade 4 and above as the equivalent of A*-C, percentage pass rates for bot top grades and the pass grade rose by 0.5 percentage points

Chart 2.1: Trends in UK GCSE Grades



- 2.3 Chart 2.1 shows the grades for all entries in the UK. But, as Chart 2.2 shows, within them there are a number of distinctive components. England with 91.7 per cent of the entries in 2018 dominates. Most (91.6% of England's entries; 84.0% of UK's entries) were taking the new reformed exams graded 9 to 1.

Chart 2.2: Grade Averages for Various Groupings, 2018

Grouping	Entries	%A/7 & Above	%C/4 & Above
All UK Entries	5,470,076	20.5	66.9
All UK 9-1	4,609,830	20.3	66.9
All UK A*-G	860,246	21.7	66.9
All Entries in England	5,013,364	20.3	66.6
England 9-1	4,592,138	20.2	66.8
England A*-G	421,226	20.8	64.7
All Entries in NI	170,348	29.4	81.1
NI 9-1	2,914	24.1	64.4
NI A*-G	167,434	29.5	81.4
All Entries in Wales	271,761	18.5	61.6
Wales 9-1	3,326	53.7	92.8
Wales A*-G	268,435	18.1	61.2
All UK 16-Yr-Olds	4,939,124	21.5	69.3
16-Yr-Olds 9-1	4,177,099	21.6	69.8
16-Yr-Olds A*-G	762,025	20.8	66.7
All UK 15-Yr-Olds & Under	123,603	28.8	72.0
15-Yr-Olds & Under 9-1	84,489	23.2	68.8
15-Yr-Olds & Under A*-G	39,114	40.9	78.8
All UK 17-Yr-Olds & Over	407,349	5.8	36.1
17-Yr-Olds & Over 9-1	348,242	3.3	31.7
17-Yr-Olds & Over A*-G	59,107	20.5	62.0

2.4 Masked by the grade patterns of these large chunks of the total entries, there are some major differences between components. Candidates in Northern Ireland score considerably better than those in other parts of the UK in both top grades and pass grades, but as they comprise only 3.1 per cent of the entries they little effect on the results overall. The best performance of all came from a tiny group in Wales (0.06% of the total) who took England's reformed GCSEs. Over half (53.7 per cent) were awarded a grade 7 or higher, and 92.8 per cent a grade 4 or higher.

2.5 At the other end of the scale, of the 17-year-olds & over taking reformed GCSEs (6.4% of the total), only 3.3 per cent achieved a grade 7 or higher, and only 31.7 per cent, a grade 4 or higher. These candidates were mainly re-taking English and maths – 89.1 per cent of the entries from the older group. In contrast, the second best result, after the exceptional group in Wales, was achieved by 15-year-olds in the UK who took GCSEs graded A*-G, with 40.9 per cent scoring A*/A and 78.8 per cent A*-C, but they were only 0.72 per cent of the grand total. Their success was mainly due to those taking 'other modern languages' early (probably the language of the home) who comprised nearly a third of the group (29.8%) and 75.6 per cent of whom scored A*/A. The other major contributor to the outstanding grades was maths, presumably sat early in Northern Ireland and Wales, which comprised 10.3 per cent of the group and of whom 43.6 per cent gained A*/A.

2.6 We will look in more detail at some of these sub-groups in later chapters, but the main data we will consider are those for ‘All UK Candidates’ since they will be the focus of attention on results-day. We shall also focus on the 22 reformed GCSEs in England to see what difference, if any difference, they have made.

3. Grades by Subject

Overall Trends

- 3.1. There is wide variation in the grades awarded in the different subjects. Chart 3.1 shows the six mainstream GCSEs with the highest scores and the six with the lowest. The three separate sciences are in the top six, while science and double science are the two at the very bottom. The stark contrast between physics, chemistry and biology, on the one hand, and combined science, on the other, is because there is selection within schools. Pupils in the top streams or sets tend to take the three sciences while the others take combined science.

Chart 3.1: Grades Awarded in Selected Subjects, 2018

Subject ¹	Entries in Thousands	%A/7 & Above	%C/4 & Above
Other Modern Languages	32.8	64.6	89.6
Classical subjects ²	15.7	64.0	90.1
Additional Maths	3.6	57.9	95.1
Chemistry	168.3	43.3	89.8
Physics	166.5	42.7	90.7
Biology	176.3	41.6	89.3
Citizenship Studies	18.0	16.0	65.3
Maths	747.2	15.8	59.4
Media/Film/TV	45.4	15.7	64.7
English	733.1	14.1	61.8
Double Science	400.5	7.6	53.3
Science	6.8	6.0	66.4
Total ³	5,470.1	20.5	66.9

1. GCSEs derived from former GNVQs e.g. leisure and tourism, hospitality and health & social care, all with very low grades omitted because it is their final year. GCSE set solely by the boards in Northern Ireland and Wales also omitted.

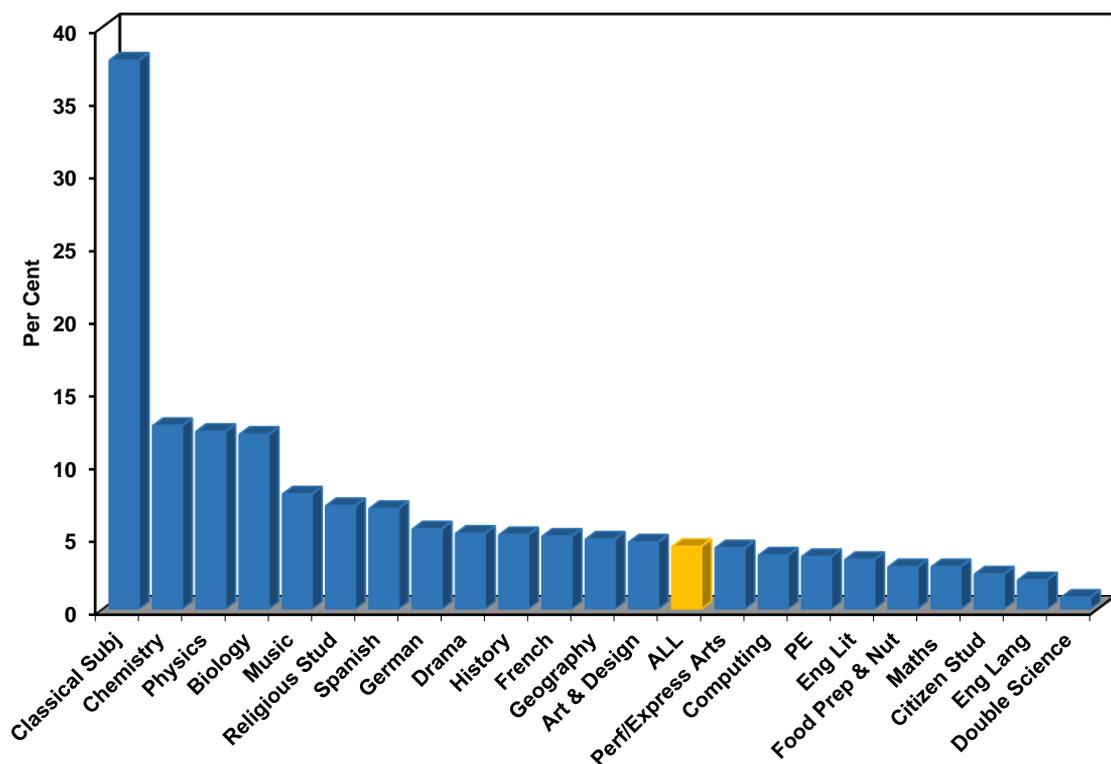
2. Includes Latin and Greek.

3. All 49 subject categories.

- 3.2. In fact, entries to all of the subjects in the top six are special in one way or another. ‘Other modern languages’ is often taken by those where the language is spoken in the home. There is a language requirement for the EBacc, and ‘other modern languages’ can be a soft way of meeting it. Latin and Greek are taught mainly in independent or grammar schools.
- 3.3. The core subjects of English and maths are amongst those awarding the poorest grades. In part, this is because all pupils rather than a distinctive group are entered for them. But there is also a large group who have already failed at least once before. Sixteen-year-olds actually account for only three-quarters of the entry. Of the other subjects in which the grades were low, double science and science were the residue options for those not put forward for the separate sciences. Citizenship studies has been invented to tackle a problem and lacks a coherent body of evidence and understanding, and not surprisingly is less attractive than, say, sociology. Media studies although very popular has yet to establish itself as a subject of the first order.

- 3.4. Subjects attract people with different talents and levels of talent. But it is not just the abilities of those who take the exams that determine the grades. It is easier to award the very top marks in subjects, such as maths, the sciences and languages, which have right answers, rather than subjects which are more subjective, such as English, psychology and sociology. In these subjects grades tend to be bunched around the average, whereas in maths they can reach right up to 100 per cent. If, however, maths is something you cannot get your head around it will show, whereas in the subjective fields the grades will not be so hard-edged.
- 3.5. Chart 3.2 gives us a glimpse of the future. It shows the range of Grade 9s that have been awarded in the reformed GCSEs that have come in so far, which includes nearly all the EBacc subjects. At the two ends, the picture is very similar to that in Chart 3.1, with classical subjects and sciences at the top and citizenship studies, maths, English and combined science at the bottom. Of those missing, the reformed GCSEs in ‘other modern languages’ and media/film/TV were taken for the first time in 2019, and additional maths and science have been discontinued.

Chart 3.2: Percentages Achieving Grade 9 by Subject in 2018



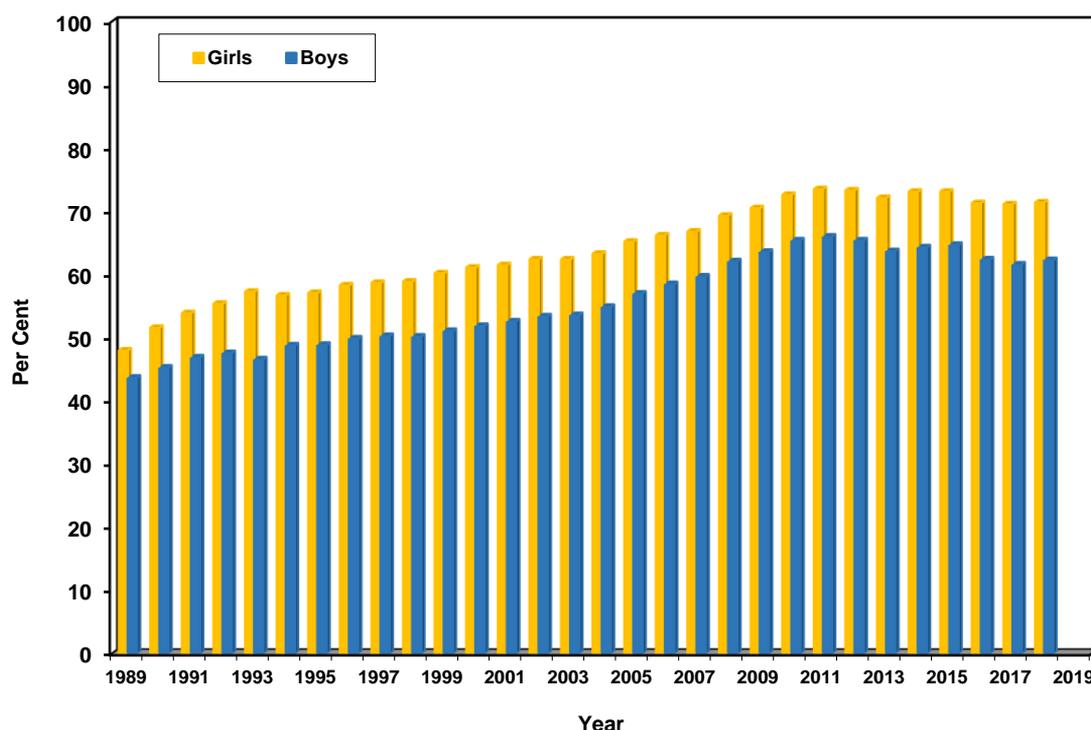
- 3.6. The percentage of grade 9 awarded range from 37.7 per cent in classical subjects to 0.8 per cent in double science, with an average of 4.3 per cent. At the time of the publication of these results, it was feared that only a handful of the students would get straight A*/9 across all their subjects, but in the event it was about 1,500. In part, this was because not all subjects in England were yet graded 9-1, but it was also because the new tougher exams yielded more top grades than might have been expected.

- 3.7. The 4.3 per cent awarded grade 9 compares with the 6.4 per cent of A* awarded in 2016, the last year when all subjects were on the A*-G scale. In fact, taking 10.8 per cent achieved a grade 9 or 8, an increase of nearly 60- per cent on the old A*
- 3.8. One might have expected that the new and extended scale for the more searching GCSEs would have been used to recalibrate the grades. But, in fact, the new scale has been pinned to the old one, even though its grades had been grossly inflated. If similar or higher grades are now being awarded to the intentionally more difficult examinations, it can only mean that fewer marks are needed to achieve them. If it involves lowering grade boundaries unrealistically, then the results will not give an accurate picture what has been achieved. This will inevitably be misleading to all who use the results.

4. Grades by Gender

- 4.1. Girls from the beginning have been considerably ahead of boys in the GCSE. Chart 4.1, shows that girls opened up a gap of 4.3 percentage points at grade C and above in 1989 after the GCSE had replaced and combined O-levels and the Certificate of Secondary Education. Since then the lead has more than doubled and a gap of around nine percentage points has been sustained ever since.

Chart 4.1: Girls and Boys GCSE Grades A*-C



- 4.2. In contrast to A-levels, in GCSEs girls are also ahead in the top grades. Chart 4.2 shows that, in 2018, considering all UK candidates, girls obtained 6.5 percentage points more A*/A grades or 9/8/7 grades than boys.

Chart 4.2: Comparison of Gender Gap in Pre and Post Reforms

Pre/Post Reforms	Grade A/7				Grade C/4			
	Girls	Boys	All	Diff	Girls	Boys	All	Diff
<i>All UK Candidates</i>								
2016	24.1	16.8	20.5	7.3	71.3	62.4	66.9	8.9
2018	23.7	17.2	20.5	6.5	71.4	62.3	66.9	9.1
<i>England Only</i>								
2016	23.8	16.6	20.3	7.2	71.0	62.0	66.6	9.0
2018	23.4	17.1	20.3	6.3	71.2	62.1	66.6	9.1

- 4.3. But, as high as this is, it does represent a fall of 0.8 percentage points on 2016, the last year before the reformed GCSEs in England began to be introduced. Does this small change in relative performance have anything to do with the new exams or is it

just a blip? The overall grade pattern does not change because Ofqual keeps it this way, but reforms to the courses and exams could alter relative performance within the totals.

- 4.4. No shift is apparent in grades C and above or 4 and above, but there is a hint of one in the top grades. This is strengthened when the results just England are considered. But, even here, some of the GCSEs were still unreformed in 2018 and there were also legacy exams grade A*-G.
- 4.5. To get a clearer picture we need to focus on the 20 GCSEs reformed and graded 9-1 by 2018, which had direct equivalents in 2016. Chart 4.3 shows that, in all but one of the new GCSEs wholly or mainly examined at the end, boys reduced the gap from girls, in some cases by substantial amounts. But in three of the five subjects where the final exam counted for 70 per cent or less of the final award, the gap in favour of girls widened.

Chart 4.3: Gender Gap in Pre and Post Reformed GCSEs, England

Subject ¹	2016 Grade A*/A			2018 Grade 9/8/7		
	Girls	Boys	Diff	Girls	Boys	Diff
<i>Final Exam</i>						
Biology	45.1	37.3	7.8	43.6	39.3	4.3
Chemistry	45.6	38.5	7.1	43.9	42.3	1.6
Citizenship Studies ²	19.6	8.4	11.2	19.6	11.5	8.1
Classical Subjects	66.2	60.9	5.3	78.6	77.4	1.2
Computing	24.4	19.5	4.9	24.2	20.0	4.2
English Language	18.2	8.8	9.4	18.5	9.8	8.7
English Literature	27.3	14.5	12.8	25.2	13.8	11.4
French	26.0	18.1	7.9	26.5	19.4	7.1
Geography	29.5	19.8	9.7	27.4	20.7	6.7
German	26.1	18.3	7.8	26.4	20.3	6.1
History	30.2	21.7	8.5	27.8	21.1	6.7
Maths	15.6	16.4	-0.8	14.7	16.8	-2.1
Physics	41.8	41.4	0.4	39.6	45.3	-5.7
Religious Studies	36.3	21.3	15.0	37.0	21.5	15.5
Spanish ²	30.9	21.6	9.3	31.3	22.6	8.7
<i>Course Work 40%+</i>						
Art & Design	27.8	12.5	15.3	27.7	12.1	15.6
Drama	26.4	15.4	11.0	28.6	14.9	13.7
Music	31.8	28.0	3.8	32.7	29.3	3.4
Perf/Exp Arts ³	23.4	13.0	10.4	23.2	17.1	6.1
Physical Education	23.6	14.4	9.2	27.0	16.1	10.9

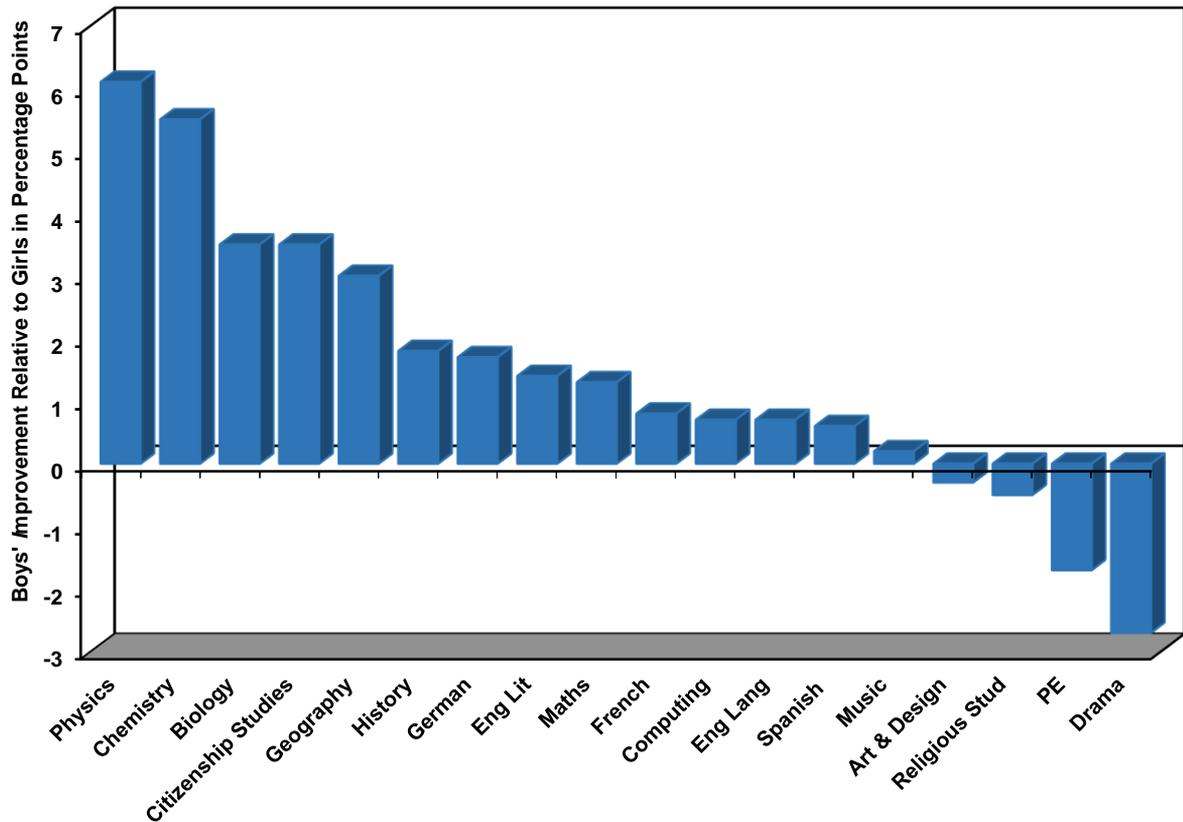
1. Science double award and food preparation & nutrition omitted because no direct equivalent in 2016.

2. Subject group not strictly comparable because classical civilisation does not become available till 2019.

3. Subject group not strictly comparable because 2018 figure is for dance

4.6. Chart 4.4 illustrates the extent of the swings as a histogram. It brings out the large gains by boys in physics and chemistry, with all the other end-examined subjects above the line, apart from religious studies. The other subjects below the line are those still assessed wholly or substantially by coursework.

Chart 4.4: Relative Improvement by Boys in 2018 Compared to 2016



4.7. It does look, therefore, as if there is something about the new courses and exams in England that shows boys in a better light. In the new exams, boys have pulled further ahead in maths and overtaken girls in physics. But these are the only two subjects in which boys actually led girls in the reformed 2018 exams.

4.8. Girls leapt ahead in GCSEs and A-levels when the courses were made modular with many of the units assessed by coursework. The return to end-of-course examinations is one possible explanation for the relative improvement by boys. This is supported by the contrast between the subjects which are examined and those in which coursework still plays a major role.

4.9. Another possible explanation is the increased difficulty of the new exams (although the effect on overall grades is hidden by Ofqual's determination to keep them the same). Across a wide variety of psychological tests and measures the distributions of the scores of males and females have been found to be different. The scores of females tend to bunch around the mean, whereas those of males are spread more widely. On an easy exam, the mean will be higher and the clustering around it will spread into

the upper part of the range. But on a tougher exam the mean will be further back and it will be the scores from a more widely spread distribution that are found at the top. The increased difficulty of the exam and the bunching effect would explain why boys have shown improvement in the top grades of the reformed exams, but not at the pass level.

- 4.10. Another factor influencing relative performance is how many boys and girls take the exam. Where one is very much in the minority, it is likely that it will be of higher ability and motivation than the other, because it will be more highly self-selected. The new GCSE in dance is an example. In 2016 it was taken by only 637 boys compared with 7,974 girls - only 7.4 per cent. In 2016 in the equivalent category it was 15.7 per cent. Thus the relative improvement in the top grades of boys could be down to greater self-selection.
- 4.11. The results in 2019 should bring further clarification. Of the 15 newly reformed subjects examined for the first time, 11 are assessed entirely or mainly (25% or less) by end-of-course examination.

5. Grades by Age

- 5.1. We saw in Chapter 2 that the overall grades published on results day are a composite of many different groups. In this chapter we explore in more detail the differences with age. Most of the GCSE entries come from 16-year-olds, but there are significant numbers aged 15 & under who have been put in early and 17 & over who are frequently re-taking exams that they have failed, although there are some studying out of interest in later life. In 2018, of all UK candidates, 90.3 per cent were aged 16, 2.3 per cent were younger and 7.4 per cent were older.

Chart 5.1: Top Ten UK GCSE Entries by Age, All UK, 2018

Aged 15 & Under		Aged 16		Aged 17 & Over	
Subject	Entries ¹	Subject	Entries ¹	Subject	Entries ¹
English Lit	32.2	Maths	567.3	Maths	172.3
Religious Stud	16.3	English Lang	561.9	English Lang	160.7
Other Mod Lang	11.7	English Lit	527.2	Double Science	6.6
English Lang	10.5	Double Science	393.6	Biology	6.6
Maths	7.6	History	254.8	English Lit	6.4
Art & Design	4.7	Geography	250.8	Art & Design	4.1
Statistics	4.6	Religious Stud	233.4	Religious Stud	3.9
Spanish	2.7	Other Mod Lang	192.1	Geography	3.4
Citizenship Stud	2.7	Biology	168.7	History	3.0
French	2.4	Chemistry	164.7	Chemistry	2.9
Total²	123.6	Total²	4,939.1	Total²	407.3

1. In thousands.

2. Totals include double science entries doubled in accordance with JCQ practice, but for the purposes of ranking we have halved to the actual number of entrants.

- 5.2. Chart 5.1 shows that the three groups tend to take different subjects. Nine of the top ten places for the 16-year-olds were filled by EBacc subjects. The interesting exception is religious studies, which in what is thought of as an increasingly secular society, occupies seventh place. It also features in the top-tens of the other two groups, actually in second place for the younger one, and is seventh again in the older one. Its popularity is surprising and it would be interesting to research the reasons. Perhaps it is associated with immigration where some of the new arrivals are deeply religious. Or it could reflect the fact that schools are still required by the 1944 Education Act to hold regular daily worship. But its recent growth has not been sustained into 2019 where the provisional figures (Chart 7.5, page 23) show a drop of 3.5 per cent.
- 5.3. The 17 & over group is dominated by English and maths. Chart 5.1 shows that these two subjects accounted for 82.8 per cent of the entries in 2018. Looking at in another way, in Chart 5.2, the data show that only about three-quarters of the entrants in English and maths are 16-year-olds, with the rest mainly 17 & over apart, from the one per cent or so who are younger. In contrast, in the overall figures – which include English and maths – over 90 per cent are aged 16.

5.4. Many of those taking English and maths post-16 will have failed these exams first time around and are re-taking them to be eligible for further funding or apprenticeships. It must be soul destroying to have to keep repeating something in which you have failed already, perhaps several times, and not be offered an alternative route to functional literacy and numeracy.

Chart 5.2: Entries by Age in Maths, English, All Subjects, UK, 2018

Age	Maths		English		All Subjects	
	N ¹	%	N ¹	%	N ¹	%
15 & Under	7.6	1.0	10.5	1.4	123.6	2.3
16	567.3	75.9	561.9	76.6	4,939.1	90.3
17 & Over	172.3	23.1	160.7	21.9	407.3	7.4
Total	747.2	100.0	733.1	100.0	5,470.1	100.0

1. In thousands.

5.5. It is a widely held impression that the 15 & under group would be mainly maths prodigies speeding their way through the curriculum, but in fact that subject is down in fifth place. At the top is English literature followed by religious studies, and it would be interesting to know the reasons why. In third spot is ‘other modern languages’, for example, Polish and Gujarati, which is an easy way of fulfilling EBacc requirements for people who speak the languages anyway.

5.6. Given the different subjects and reasons for taking them, it is not surprising that the results in the three groups should be very different. The average grade for the young group is higher than that for 16-year-olds, but in the older group it is considerably lower – not surprising, given that they are mainly retakes. The differences are extreme in maths where 40 per cent of the young entrants achieve at least grade A or 7, compared with 20 per cent of the 16-year-olds, but under two per cent of the older group.

Chart 5.3: Results by Age in Maths, English, and All UK, 2018

Age	At Least Grade A/7			At Least Grade C/4		
	Maths	English	All	Maths	English	All
15 & Under	40.1	13.1	28.8	73.6	65.3	72.0
16	19.8	17.5	21.5	69.3	69.6	69.3
17 & over	1.7	2.1	5.8	36.3	34.2	36.3
Total	15.8	14.1	20.5	59.4	61.8	66.9

5.7. Apart from maths and ‘other modern languages’, the younger group does less well than might have been expected. At one time entering early was thought to be a good tactic to enable borderline candidates to put in the practise to get over the line on a later attempt, and so contribute to a school’s league table position. But since only the first attempt now counts for accountability purposes that ruse no longer works. Perhaps the habit is hard to break in some schools.

5.8. The results of the large older group depress the overall grades in English and maths. As we saw in Chapter 3, these core subjects are among those with the poorest GCSE grades. This is not only down to the re-takes, but also because every pupil is entered for them. Grades are highest where subjects are optional and candidates can play to their strengths.

6. Grades by Countries of the UK

- 6.1. Although they share the same name, GCSEs in England, Northern Ireland and Wales, are different and destined to become more so. The writ of the UK government for education only runs to England, with devolved responsibility elsewhere. Each country of the UK has its own regulator, exam boards, school system, and accountability arrangements. The regulatory bodies in Northern Ireland and Wales do co-operate to keep the standards comparable. On results day, the headline figures are for GCSEs across the whole of the UK. In 2018, 91.6% of the entries came from England, 5.0% from Wales and 2.9% from Northern Ireland, with 0.5 per cent from elsewhere.

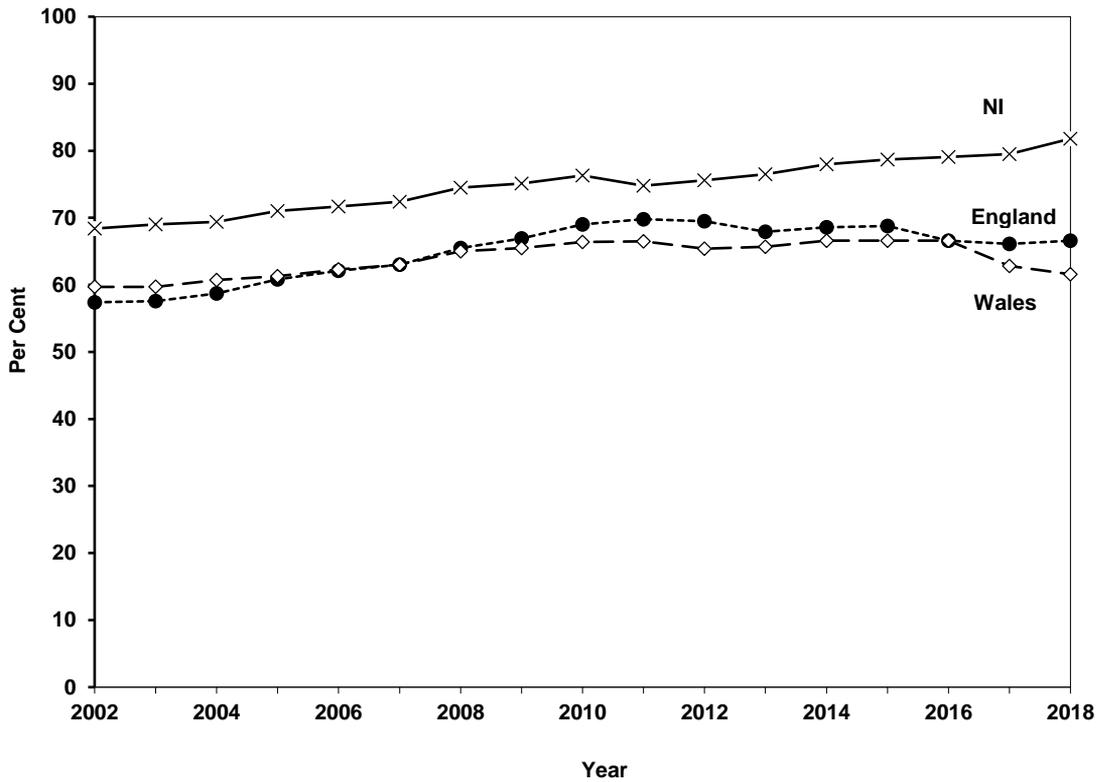
Chart 6.1: A-Level Results by Country, 2018

Country	Grade A/7				Grade C/4			
	Boys	Girls	All	G/B Gap	Boys	Girls	All	G/B Gap
Northern Ireland	23.2	35.3	29.4	12.1	76.9	85.1	81.2	8.2
England	17.1	23.4	20.3	6.3	62.1	71.2	66.6	9.1
Wales	15.1	21.9	18.5	6.8	56.6	66.5	61.6	9.9
Total	17.2	23.7	20.5	6.5	62.3	71.4	66.9	9.1

- 6.2. Chart 6.1 shows that in 2018 Northern Ireland was considerably ahead of England in both top grades and the pass grade, with Wales further back. The impressive achievement of the students in Northern Ireland is masked because of its small size. There is a large gender gap in favour of girls in all three countries. In top grades the smallest difference is in England, perhaps reflecting the changes made there to the courses and exams.
- 6.3. The 2018 results are not a fluke as far as Northern Ireland is concerned. Chart 6.2 shows that it has been consistently well ahead of England and Wales since at least the turn of the century. The graph shows the percentages at the pass level and above, but top grades would have shown similar consistency. In terms of at least a pass, Northern Ireland was 11 percentage points above England in 2002 and 14.5 pp ahead in 2018. Wales was 2.3 pp ahead of England in 2002, but England overtook it in 2008, and by 2018 had opened up a lead of 5.0 pp.
- 6.4. The improvement in grades in England has been driven in part by the publication of schools' results, something that Wales has resisted. The Welsh government has conducted a Review of Qualifications in Wales, and the performance measures used changed in 2017, but are different from those in England. The Welsh government does not publish GCSE results by school or use them in accountability measures in the way the UK government does in England, but it does run a 'My Local School' site with performance data that can be compiled for unofficial school league tables.
- 6.5. The exam success in Northern Ireland does not receive the attention or praise that it deserves. This may not be unconnected with the fact that it has a grammar school system. But it is an intriguing question: why is Northern Ireland so far ahead of England in GCSE results – and not just in these, but also at A-level and in the

international comparisons of TIMSS and OECD. The extent of the difference is likely to diminish in 2019 since the NI exam board has introduced a new C* grade so that the scale it uses has 9 points as the one in England does, and A* is to be aligned with England's new grade 9. This is likely to see fewer A* grades being awarded in the future.

Chart 6.2: Trends in A*-C/9-4 by Country



6.6. The three countries have been going their own ways in reforming GCSEs and they will become increasingly different as the changes unfold. It is hard to see how the results can continue to be published as one set. To gauge the impact of the UK government's GCSE reforms in England it is necessary to focus on England's results (about 92% of the UK total). Even better would be to look at the results for 16-year-olds in England, about 80% of the total entries. In order to assess the impact of Michael Gove's GCSE reforms, it would be extremely helpful if the Joint Council for Qualifications would publish annual results package a breakdown of the grades by both age and country.

7. Trends in Entries

- 7.1. There is not much movement in the subjects taken year by year, although there are changes in response to policies and fashions. Chart 7.1 show the ten most frequently taken subjects at ten-year intervals from the first year of GCSE in 1988 through to 2018. Maths has been top and English second over the three decades, followed by English literature. Geography, history and art (in its different guises) have been in all four lists too. Science has been represented in various ways. In 1988, it was by all three separate science, in 1998 combined science, in 2008 science and additional science, and in 2018 double combined science, as well as biology and chemistry, which along with physics have been bouncing back from their near demise.

Chart 7.1: Top Ten UK GCSE Entries

1988		1998		2008		2018	
Subject	N ¹	Subject	N ¹	Subject	N ¹	Subject	N ¹
Maths	670.1	Maths	670.1	Maths	738.4	Maths	747.2
English	666.7	English	637.7	English	721.6	English Lang	733.1
Eng Lit	394.8	Comb Science	503.8	English Lit	558.4	English Lit	565.8
Geography	305.6	English Lit	492.7	Science	537.6	Double Science	400.5
Biology	304.6	French	335.7	Additional Sci	433.5	History	260.2
French	265.3	Geography	265.6	Design &Tech	332.7	Geography	256.4
History	256.3	Design &Tech	385.1	History	226.7	Religious Stud	253.6
Physics	254.1	History	209.8	Art	205.5	Art & Design	178.9
Art & Design	228.0	Art	206.8	Geography	203.9	Biology	176.3
Chemistry	217.6	German	133.7	French	201.9	Chemistry	168.3

1. In thousands

- 7.2. There are other distinctive trends. French was seventh in 1998, but it dropped to tenth in 2008 and disappeared from the top ten altogether a decade later. German made a brief appearance in 1998, but its trajectory is similar to that of French. One factor in its changing popularity is that a language is not now compulsory at Key Stage 4, as it once was. This applies to design and technology also and it, too, was prominent in 1998 and 2008, but it has now disappeared from the top ten.

Biology, Chemistry and Physics

- 7.3. Among the biggest gainers in recent years have been the separate sciences, with biology and chemistry re-emerging in the top ten in 2018, and physics just missing out. There has been recent talk of the sciences pushing out the humanities as the expectations of education become more instrumental. But far from being a cuckoo in the nest, the sciences have been slowly recovering from policies which almost saw them disappear as subjects in pre-16 education.
- 7.4. In 1988, ‘science’ was the subject settled on for inclusion in the national curriculum. It was envisaged that the GCSEs would be double and single awards in science, and that biology, chemistry and physics GCSEs would be phased out. So would they have been were it not for the independent schools. Not required to follow the national

curriculum, they put up fierce resistance to the possible loss of the separate science GCSEs, so that for a decade or more they were largely confined to this sector.

Chart 7.2: Science Entries in 1988 and 2018

Subject	1988	2018	%Change ¹ 1988-2018
Biology	304,675	176,325	-42.1
Chemistry	217,638	168,273	-22.7
Physics	254,107	166,462	-35.0

1. The actual decreases are even greater because 1988 figures are for England and Wales only, whereas 2018 includes Northern Ireland as well.

- 7.5. It was only when the disastrous impact on entries to A-level physics particularly, and the consequences for degree admissions, was fully grasped by politicians that the government of the day responded. In 2004, Gordon Brown as Chancellor of the Exchequer, published the *Science and Innovation Investment Framework 2004-14*. This created incentives for state schools to return to teaching biology, chemistry and physics as separate subjects at GCSE. That prompted some recovery, but, as Chart 7.2 shows, there is still some way to go before entries approach the levels they were at in 1988. Recent increases have been driven by including the separate sciences as part of the core defined by the EBacc. Only two out of the three are needed to qualify and this offers greater flexibility than the alternative requirement of double-award combined science.

French German and Spanish

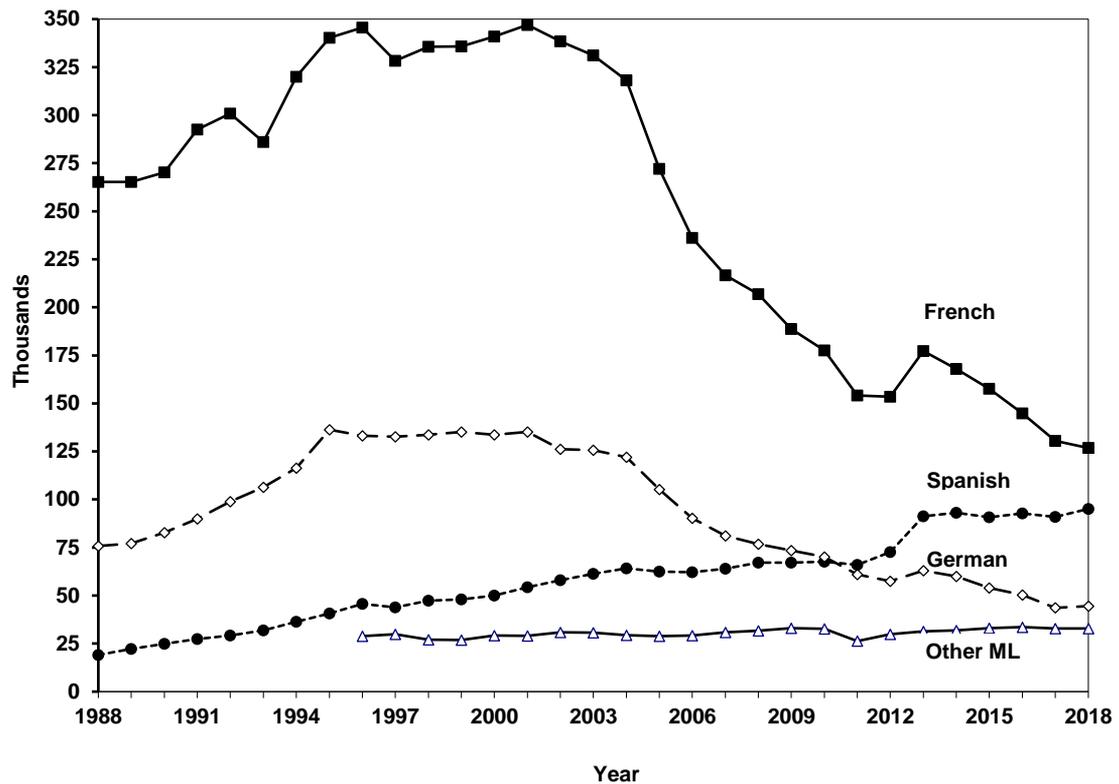
- 7.6. Entries for French and German have declined steeply in recent years despite a language GCSE being necessary to complete the EBacc. Chart 7.3 show the trends since the inception of the GCSE in 1988. French, in spite of some growth in between, is down by 52.5 per cent and German by 41.2 per cent. Although a required element of the EBacc combination, the fact that a modern foreign language is no longer compulsory in Key Stage 4 and the difficulty of recruiting enough teachers will have contributed to the decline. There is also the increasingly common assumption on the part of Brits that people everywhere speak English.
- 7.7. Spanish has bucked the trend growing fourfold from an intake of 19,100 to 95,100. From a low base it now has more than double the number of entries of German. This makes good sense since Spanish is one of the four most frequently spoken languages in the world, along with Mandarin, Hindi and English. But its rise in popularity may also have something to do with Spain as a favourite holiday destination, gap year travels to South America and the popularity of Spanish football.

Other Modern Languages

- 7.8. Over the period 1996 to 2017 the take-up of ‘other modern languages’ has risen from 28,900 to 32,800 (+13.4%). It consists of a wide variety of languages including Polish, Arabic, Chinese, Urdu and Portuguese. These are the languages of many of the new arrivals in this country, which suggests that they would have been spoken anyway. Native speakers set standards in languages such as Mandarin that those of

white British heritage find difficult to match, and so few take them. For children where they are spoken in the home, one of the ‘other modern languages’ is a soft way of meeting the EBacc requirement.

Chart 7.3: Trends in Entries to Modern Languages¹



1. Although the figures are all taken from JCQ’s August results, there are two discontinuities: (a) in the period 1988 to 1993 the results were for England and Wales only and solely for exams devised by the examination boards which were externally marked (there was also provision for the approval of teacher-designed and teacher-marked syllabuses, of which considerable use was made but entries do not appear in the published results); (b) from 1994 to 1999, results from Northern Ireland were included, but still run lower than from 2000 onwards, the results in August 2000 showing 6,000 more entries for 1999 than appeared on the actual release in August 1999.

Changes between 2018 and 2019

- 7.9. In May each year Ofqual publishes the provisional entries for exams set by the exam boards in England for that summer’s series. Charts 7.4 and 7.5 show the changes between 2018 and 2019, for respectively, the EBacc and non-EBacc subjects.
- 7.10. It is clear that designating a core of subjects as the EBacc, which is used as a reporting measure for schools, is having a continuing effect. In 2019 entries in EBacc subjects increased by 3.7 per cent, while those in non-EBacc subjects fell by 9.5 per cent (although this figure is somewhat misleading because it includes the loss from the non-EBacc subjects that were discontinued in 2018).

Chart 7.4: Change in EBacc GCSE Entries in England 2019

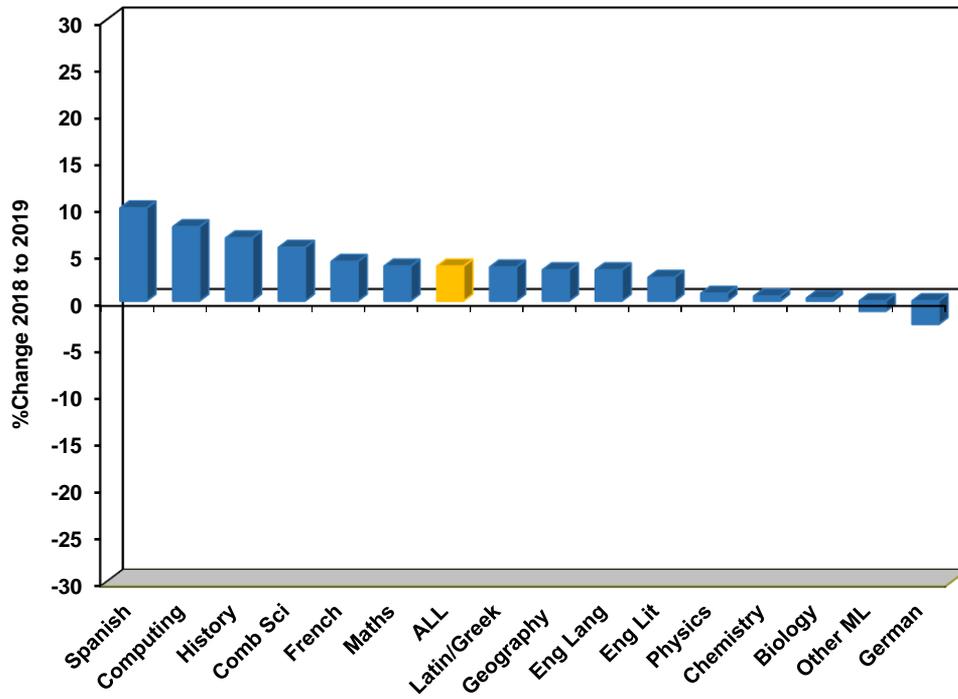
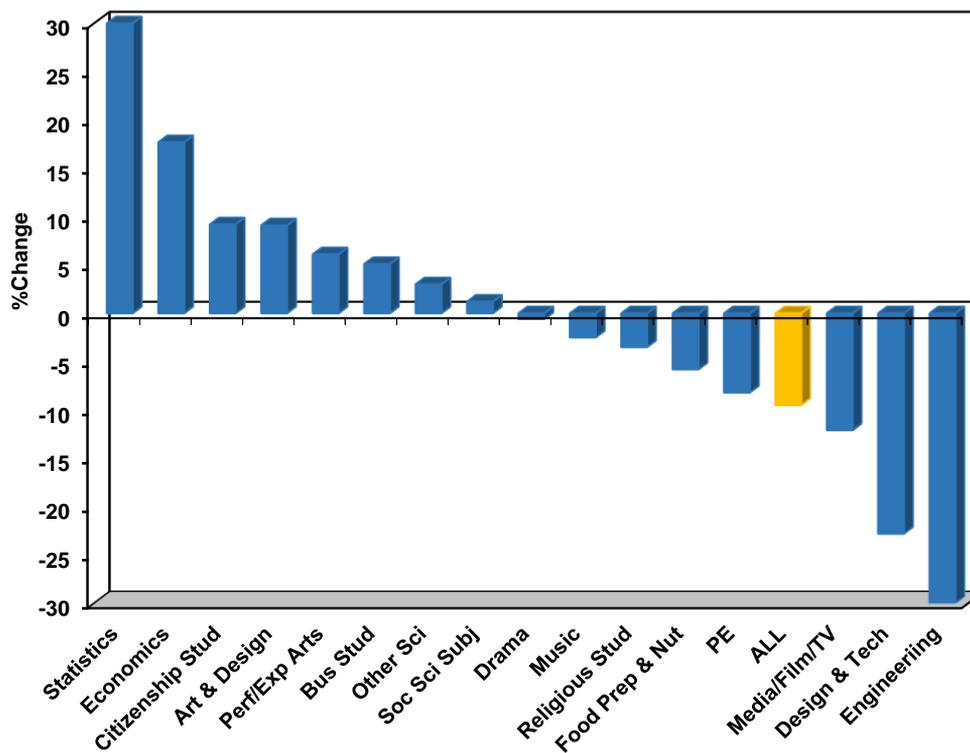


Chart 7.5: Change in Non-EBacc GCSE Entries in England 2019



- 7.11. Chart 7.4 shows that entries in most of EBacc subjects increased. Spanish continues its rise and French shows an increase for the first time in years, but ‘other modern languages’ and German fall. Combined science has attracted nearly six per cent more, but the separate sciences show only modest gains. Computer science, history, maths, Latin, Greek, and geography also increase.
- 7.12. The biggest gainers and the sharpest losers were non-EBacc subjects. At the extremes, they are too large to fit on the scale. Statistics rose by 55.5 per cent and engineering fell by 36.6 per cent. Among other prominent winners are economics, citizenship studies and art & design, while on the flip side are design & technology, media/film/TV and physical education. Design & technology has been in free-fall since the compulsion to study it was removed, and media studies and PE seem to be going out of fashion.

Résumé

- 7.13. It is possible to discern subject entry patterns over the life of the GCSE. English and maths have been the mainstays throughout, with history and geography holding their places. But French and German have collapsed; biology, chemistry and physics, having been supplanted by ‘science’, have recovered strongly; computer science has been slow to take off although it is being taken more frequently now that ICT has been discontinued.
- 7.14. In 2019 the major parts of the reforming process are virtually complete. In the next chapter we look at what this might mean for results this year, bearing in mind the changing entry patterns.

8. Review and Prospects

- 8.1 It is nearly a decade since Michael Gove, as Secretary of State for Education, first set in train a major reform of GCSEs and A-levels. This year, 2019, sees the process nearing completion, with the third tranche of the new-style exams being rolled out. The courses have been revised and benchmarked against the best in the world; they have been re-designed as an integrated two years of study rather than being broken into modules; the assessment has been changed and made more searching; and it now mainly takes place at the end through externally set and marked exams, rather than internally marked course work. What differences are all these changes making?

Grades Overall

- 8.2 It might have been reasonably supposed that with intentionally more difficult exams the grades would go down and that the recalibration of the GCSE scale from A* to G to 9-1 was designed to facilitate this. But Ofqual, having been charged with maintaining consistency over time, opted to pin the new grade 7 to the old grade A, and similarly grade 4 to grade C. On harder examinations the marks will go down unless performance improves, so conceivably grades should fall. But Ofqual has been instructing the exam boards in England to lower the grade boundaries where necessary to keep the results similar in terms of grades, so that it is astonishing at times how few marks are needed to pass or achieve a top grade.
- 8.3 There have been many news stories this year of children in tears because the new exams have seemed too difficult. There were also calculations by one of the exam boards in England, Cambridge Assessment¹, which indicated that only somewhere between 200 and 900 pupils would make a clean sweep of the highest grades in 2018, compared with more than 8,500 in previous years. In the event, about 1,500 did so, but of course the A* remained in many subjects.
- 8.4 Since Ofqual started controlling grades in 2011 there has been some movement downwards, but in 2018, the first year in which a substantial number of the new tougher exams were taken, including all the EBacc subjects, surprisingly they went up again.

Subjects

- 8.5 There is a wide range in the grades awarded in the different subjects. Those in English and maths are amongst the lowest, partly because everyone has to take them, but also because the overall figures include the re-takes of those aged 17 & over. Currently, over a fifth of the English and maths candidates are 17 plus, and their results are very poor.
- 8.6 The subjects with the highest grades are those where there are several alternatives and candidates are entered for the one which plays to their strengths: 'other modern

¹ Benton, T. (2018). How many students will achieve straight grade 9s in reformed GCSEs? *Research Matters*, Issue 25. Spring 2016.

languages' (spoken in the home); classical subjects (independent or grammar schools); and biology, chemistry and physics rather than combined science (top sets).

Gender

- 8.7 Girls hold a massive lead over boys in all GCSE grades. This opened up when the exam replaced O-levels. Gove's reforms make the GCSEs more like these old exams, so will this enable boys to catch up to some extent? Results in 2018 suggest there has been some reduction in the gap, if only a small one. Of the 15 reformed GCSEs examined wholly or mainly by an exam at the end, all but one – religious studies – showed relative improvement by boys at grade 7 and above compared with A*/A in the last full year of the old GCSEs in 2016. In some cases, the swings were large. In physics, it was 6.1 percentage points enabling boys to move ahead in this subject. In chemistry, the swing was 5.5 pp, in classical subjects, 4.1 pp, and it was 3 pp or more in biology, citizenship studies, and geography (Chart 4.3).
- 8.8 In contrast, in four of the five subjects retaining 40% or more of coursework, there was no relative improvement by boys. The exception is the new GCSE in dance where boys are outnumbered by more than 12 to 1. It is probable, therefore, that in doing something so unusual they are especially sure of themselves and likely to do very well. This GCSE replaces a broader group of subjects in which the percentage of boys was twice as high.
- 8.9 Eleven of the 15 reformed GCSEs taken for the first time in 2019 are wholly or mainly examined at the end. If the outcome in 2018 is repeated we will see boys biting even further into the girls' lead. At present, however, boys are ahead in only two of the mainstream subjects – maths and physics. This connection between the new exams and boys' and girls' performance was evident only in the top two grades. The changes had no impact on passes where girls retained a huge nine percentage point lead.

Age

- 8.10 The subjects taken by the three age groups differed considerably in 2018. The 16-year-olds mainly took EBacc subjects. Provisional entries in England this year show a further increase of 3.7 per cent in entries to these subjects, even though the size of the cohort had fallen. Young entrants mainly took subjects like maths and 'other modern languages' in which they have a special talent. Older entrants were mainly enforced re-takes.

England, Northern Ireland and Wales

- 8.11 GCSEs in England, Northern Ireland and Wales, although sharing the same names, are growing increasingly apart. Grades in Northern Ireland have been considerably and consistently above those in England and Wales. This gap may, however, reduce in 2019, because for the first time a scale including a C* will be applied, and the A* will be aligned with the 9 on the scale in England. It thus becomes a more rarefied top grade and fewer are likely to be awarded.

Entries

- 8.12 Looking back over the thirty years of the GCSE, entries have been mainly stable with a backbone of maths, English, English literature, geography, and history, together with science and art in their various forms. But French, German and design & technology have plummeted since they ceased to be a compulsory part of the Key Stage 4 curriculum. Spanish has bucked the trend increasing its intake fourfold over the 30 years, but from a very low base. Biology, chemistry and physics have bounced back since their near demise (to be replaced by combined science) in the reforms following the introduction of the 1988 national curriculum. But entries are still down substantially on what they were thirty years ago.
- 8.13 The trends in GCSE subjects show that there has been a continuing move into those counting towards the English Baccalaureate. Provisional entries for 2019 record an increase of 3.7% in EBacc subjects and a decline of 9.5% in non-EBacc subjects, but the swing away from non-EBacc is exaggerated by including the figures of those that have been discontinued.

Prospects

- 8.14 The headline figures published on results day are an amalgam of the results from the different subjects, boys and girls, the different age groups, and from the different exam boards and regulators in England, Northern Ireland and Wales. The grades overall are most like those in England because it accounts for 92% of all entries. Whether Gove's tougher exams take the grades up or down will depend on the extent to which Ofqual acts to lower the grade boundaries to compensate for lower marks.
- 8.15 The new national reference test will be taken into account for the first time to adjust the grades in English and maths. Since its trial run in 2018 showed an increase in the maths scores, if this occurs again maths grades could rise somewhat. But the change to the grading scale in Northern Ireland is likely to cause some grades to fall. As entries from that part of the UK, however, contribute only just over three per cent of the total, this change may not show through to any extent in the results overall.
- 8.16 Last year's results indicate that boys would make further inroads into girls' lead in the top grades in 2019, if the eleven newly reformed subjects that are wholly or mainly examined at the end behave as the 14 already in place did in 2018.
- 8.17 Despite the upheaval, the results will remain largely the same. Students, parents and teachers are still not receiving better information about achievements, because the grades do not distinguish any better. Similarly, for universities and employers when it comes to A-levels. The reforms have taken a long time, a lot of money, and much effort. So has it all been worth it?
- 8.18 The answer has to be yes, if they are fully followed through. The new courses are intended to educate children to higher standards and the new exams to test whether they have been reached. When candidates flounder and are distressed, however, the cry goes up that the exams are too hard and, as with the Dearing reform of the A-level maths in 2002, the temptation is to make the exam easier again. But surely the right response is to find ways of educating to the higher standards. The new examinations

potentially also give better information about achievement to the young people themselves, their parents, their teachers and to users of the exams such as universities and employers.

- 8.19 But these benefits will only accrue if a dilemma is faced and resolved. Expecting more of children makes the courses and exams more difficult, and unless education improves, marks will tend to go down. What then should be done? Conceal the poor performance by keeping the grades the same? Make the courses and exams easier once more? Allow the grades to fall? Teach the children better to bring them up to higher standards?
- 8.20 The reforms were intended to achieve better education. But they are being undermined by keeping the grades the same at all costs. While it is reasonable to offer some protection to those first taking the new exams – though lots of practice on specimen new-style papers should have taken place – propping up the grades must not become established practice. When Ofqual judges that sufficient time has elapsed for the new courses and exams to have bedded in, it should free up the grades to find their own level.
- 8.21 The worst possible outcome would be to make the exams, and therefore the courses, easier once more, because we would then be back where we started and all the upheaval would have been for nothing.