RESEARCH AND ANALYSIS

Summer 2021 results analysis and quality assurance

GCSE and A level

ofqual

Contents

Overview

In January 2021 and in response to the coronavirus (COVID-19) pandemic, the Government announced that it was no longer fair for many exams and assessments to go ahead as planned this summer. It was confirmed that students taking GCSE, AS and A levels regulated by Ofqual would be awarded grades based on an assessment by their teachers. Ofqual and the Department for Education consulted jointly on the alternative arrangements to summer exams, and the outcome of this consultation was announced in February. Teachers have used a range of evidence to make a judgement about the grade at which their students have performed, focusing on the content that students have been taught.

As part of these arrangements, exam boards have implemented a process of quality assurance. Each school and college was required to put in place an internal quality assurance process, which was defined in their centre policy. Centres' internal quality assurance included internal standardisation of marking and grading judgements. As part of the external quality assurance, exam boards reviewed the centre policies for all centres. Exam boards also requested evidence from all centres and checked the evidence used to support teacher grades for some students in a sample of centres. We have been monitoring the quality assurance carried out by the exam boards and provide a brief overview in this report. We will provide more detail of our monitoring of exam board delivery in our report on the summer series that we will publish in December 2021.

Results days this summer are 10 August for AS and A levels, and 12 August for GCSEs. As in other years, JCQ publish national results statistics on results days. This includes overall outcomes for each qualification (GCSE, AS and A level), as well as a breakdown by subject group and gender. To supplement these analyses, we have provided further breakdowns in this report for GCSE and A level. Given the small (and declining) entry for AS, we have not provided any breakdowns of results for AS qualifications.

Our analyses focus on qualifications regulated by Ofqual and include only students in England. Where appropriate, we focus on particular age groups – typically the target age group for each qualification (16-year-olds for GCSE and 18-year-olds for A level). Our results analyses are based on data submitted to Ofqual by exam boards around a week before results are issued. Given this, there is likely to be a small amount of missing data for results that were not processed at that time. This is unlikely to impact on the overall trends though, and any data that is missing is likely to be missing at random.

It should also be noted that there are some small differences in the figures that we have included in this report that relate to previous years, compared to the report that we published following summer 2020. This is generally due to us having updated

data, but in the centre type analysis it is also due to us only including centres with entries in all years (meaning some centres that were included in the analysis that we published in 2020 do not have entries in 2021, so are excluded from the historical figures). Again, these small differences do not impact on the overall trends.

We have published a separate report for general qualifications examining outcomes for students with different protected characteristics and socio-economic status. We have also published 2 separate reports for vocational and technical qualifications, providing analyses of entries and outcomes, and outcomes for students with different protected characteristics.

Quality assurance

The policy this year was to trust teachers to assess their students and to decide on the grade that best reflects their performance. Students were only assessed on the parts of their courses they had been taught.

Recognising that schools and colleges had been affected in different ways by the pandemic, the course of which was uncertain, schools and colleges were given wide discretion to decide how to assess their students. This allowed them to:

- take into account relevant work already undertaken and coursework or non-exam assessments
- set new assessments written by teachers or using questions provided by the exam boards
- vary the approach used for individual students where that was appropriate for their individual circumstances (for instance those lacking the same range of existing evidence as their peers, or who may not have received a reasonable adjustment they were entitled to at the time that previous assessments were completed)

Schools and colleges each set out in their centre policy how they would assess their students and determine their grades, within the guidance provided by the exam boards. The boards contacted schools and colleges as they were developing their policies to make sure that they understood what they were required to do.

These centre policies were then submitted to the exam boards who checked them all. Where exam boards had concerns about the approach a school or college planned to take, the school or college was required to make changes.

These policies explained the steps that schools and colleges would take to ensure that their grades were properly determined. This included making sure that teacher assessed grades (TAGs) were checked by at least 2 teachers. When submitting grades the head of each school and college also had to make a declaration confirming that they had been produced in line with the requirements and the centre's policy.

After the TAGs were sent to the exam boards, the boards required each school and college to send in the work for a sample of subjects and students. The exam boards selected the subjects and the specific students for whom this work was to be sent in. Schools and colleges had 48 hours in which to submit their evidence.

The exam boards scrutinised a selection of the student work submitted. Factors which meant that a school or college was more likely to be selected for scrutiny included, for example, that the grades submitted for their entries this year looked unusual compared to those in previous years, or concerns about potential malpractice. The exam boards also looked at work from some schools and colleges

selected at random. They made sure work from schools and colleges of all different types (for example, academies, independent schools, further education colleges and sixth form colleges) was looked at, and that schools and colleges from all regions were included.

Student work from 1,101 centres in England, around 1 in 5 schools and colleges, was scrutinised in this way. Checks were also carried out on centres taking Ofqual-regulated GCSE, AS and A levels outside of England and the UK.

Students' work was reviewed by subject experts (usually senior examiners) appointed by the exam boards, who checked that the TAGs submitted were supported by the evidence. Subject experts did not re-mark or moderate the work submitted, they looked at the evidence in the round, as teachers had been asked to do.

For 85% of the schools and colleges whose students' work was scrutinised by the exam boards, the subject experts were satisfied that the evidence supported the TAGs that had been submitted. The remainder were subject to further scrutiny. This included professional conversations between the exam boards' subject experts and centre staff, which covered both the samples of work submitted and the school or college's approach to determining grades more generally.

Following these additional checks, in most cases the exam boards were satisfied either with the school or college's original judgements or with the revised TAGs which they submitted.

At the time of writing this report, the exam boards were in continuing discussions with a small number of centres either because of issues identified through the quality assurance process or as a result of concerns about a centre's practice raised directly with the exam boards or with Ofqual. Results will be withheld for these schools and colleges should these concerns remain unresolved on results day.

We will publish further information and statistics about the quality assurance process, and malpractice investigations and findings, later this year as part of our usual cycle of regulatory reporting and official statistics.

Analyses of A level results

This section provides an overview of our analyses of A level results. To provide context, we initially consider overall A level outcomes compared to 2020, by drawing on the results statistics published by JCQ (since these are most complete). As outlined above, our own analyses use data submitted to us by exam boards around a week before results are issued, meaning that there might be some small differences in the total number of students compared to the more complete JCQ figures. Unless otherwise noted, outcomes are presented as cumulative percentages throughout this report (including for the JCQ figures – meaning grade A outcomes refers to grade A and above).

Overall A level outcomes compared to 2020

JCQ have published overall A level results for summer 2021, including breakdowns by subject group and gender. These figures show that for all students in England, overall A level outcomes are higher at the top grades (A* to B) compared to 2020, and relatively stable at the lower grades (C to E).[1] The greatest percentage point (pp) increase compared to summer 2020 is at grade A (+6.2pp), followed by grade A* (+4.8pp) and B (+4.4pp). At the lower grades, outcomes are within 1pp of the outcomes in summer 2020 (+0.7pp at grade C, -0.6pp at grade D, and -0.2pp at grade E). These trends are similar when considering all students or just 18-year-old students.

A level students are generally more able to study independently than younger students and have more study time for each subject. There has been an increase in outcomes at the top grades and stability at lower grades. This may be because the most academically able students were most able to study independently.

The JCQ figures also show that, although outcomes are higher than summer 2020 in all subjects at the top grades, the extent of the difference varies by subject and grade. For example, at grade A, outcomes are higher than 2020 to the greatest extent in music (+13.1pp), followed by physical education (+11.1pp) and design & technology (+9.4pp). Outcomes are higher than 2020 to the least extent in other sciences (+2.8pp), further maths (+4.0pp) and sociology and law (both +4.6%). At grade A* the pattern is slightly different, and the greatest difference compared to 2020 is for 'other' modern foreign languages (+19.2pp), followed by German (+11.2pp) and music (+10.5pp). The smallest increases compared to 2020 are for 'other' sciences (+0.8pp), law (+1.9%) and sociology (+2.4pp).

[1] Note that any comparisons to 2020 are considered as percentage point (pp) changes throughout this report.

Number and average number of A level qualifications per student

The results statistics published by JCQ focus on A level entries (hence students will be counted multiple times if they have entered multiple qualifications). We have also conducted analyses at the student level, by combining data across exam boards. This has included calculating the average number of A levels per student and the number of A levels per student (for 18-year-olds taking at least one A level each year).

Table 1 shows that the average number of A levels per student has remained stable over time. Furthermore, the number of A levels taken by individual students has also remained relatively stable (Table 2), with the majority (around two-thirds) taking 3 A levels. Only a small proportion of students took 4 or more A levels in summer 2021, as in previous years.

Table 1. Average number of A level qualifications per student

	2017	2018	2019	2020	2021
A level	2.67	2.68	2.66	2.67	2.67

Table 2. Percentage of students by the number of A levels taken per student

Number of A levels	2017	2018	2019	2020	2021
1	11.3	10.5	10.6	10.5	10.9
2	16.8	16.8	17.0	16.4	16.5
3	65.4	66.9	68.0	68.7	67.7
4	6.2	5.6	4.3	4.4	4.9
5+	0.3	0.2	0.1	0.1	0.1

A level grade combinations

As in 2020, we have considered the grade combinations achieved by students taking 3 A levels (the most prevalent number of A levels). Figure 1 shows the grade profiles (meaning the grades they achieved across the 3 qualifications), with attainment decreasing from left to right (3 A* grades on the left of the plot and 3 U grades on the right). For reference, the underlying data showing the percentages and cumulative percentages for each grade combination are provided in Table 3.

Because there are a large number of different grade combinations possible when a student has taken 3 A levels, we have combined some groups by using the # symbol to represent any grade that is lower than the first grade in each combination, for example CC# represents students awarded 2 C grades and a grade D, E, or U. The solid lines on the graph show the trajectories for 2017 to 2021. The percentages are

cumulative such that they include the percentage of students achieving each grade combination or a higher combination. For example, the cumulative percentage for AAA will also include students achieving A*AA, A*A*A, and A*A*A*.

Figure 1 shows that the grade combinations received by individual students in 2021 are typically higher than in previous years. This can be seen clearly when the cumulative percentage of students awarded each grade combination is visualised. This is not surprising given that overall outcomes in 2021 are higher than previous years.

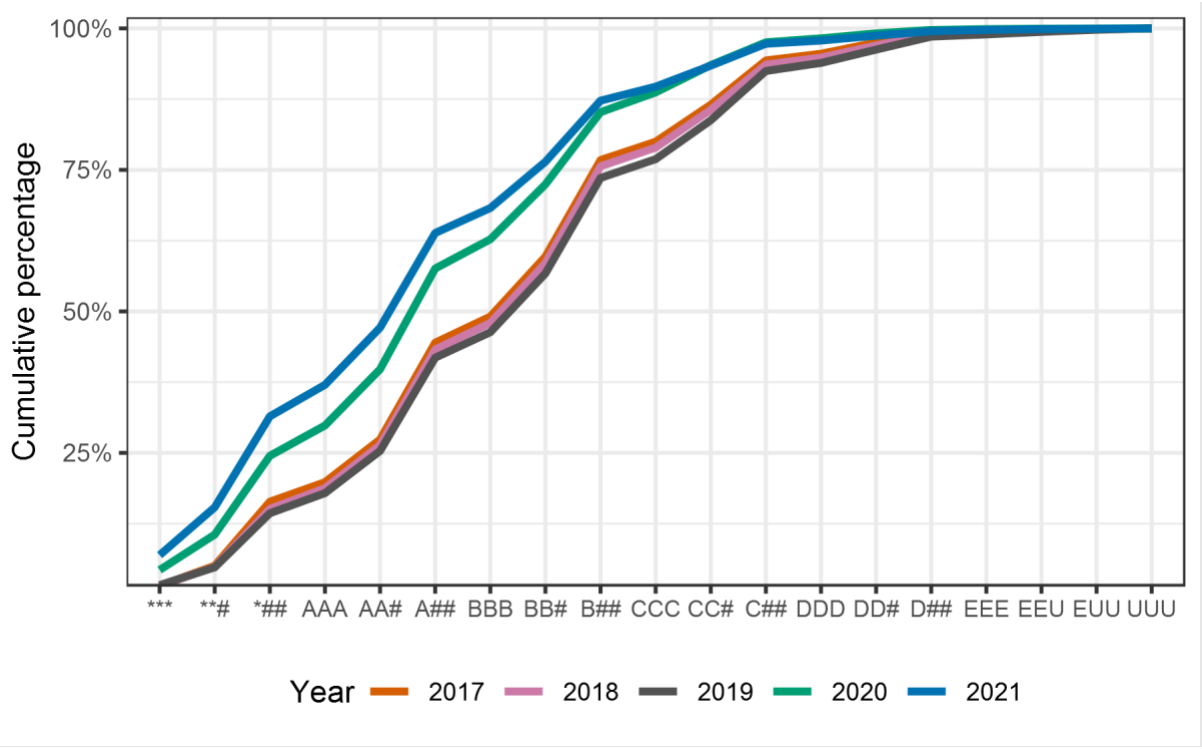

Figure 1. Cumulative percentage of students by A level grade combinations

Table 3. Percentage and cumulative percentage of students awarded A level grade combinations between 2017 and 2021

Grade combination	% 2017	% 2018	% 2019	% 2020	% 2021	Cum % 2017	Cum % 2018	Cum % 2019	Cum % 2020	Cum % 2021
A*A*A*	1.5	1.5	1.6	4.3	6.9	1.5	1.5	1.6	4.3	6.9
A*A*#	3.6	3.4	3.1	6.3	8.5	5.1	4.8	4.8	10.6	15.4
A*##	11.3	10.3	9.5	13.9	16.1	16.4	15.1	14.3	24.5	31.5
AAA	3.5	3.7	3.6	5.4	5.6	19.8	18.8	17.9	29.8	37.0
AA#	7.5	7.6	7.5	9.9	10.1	27.4	26.4	25.4	39.8	47.1
A##	17.1	16.9	16.5	17.8	16.7	44.5	43.3	41.8	57.6	63.9
BBB	4.6	4.7	4.5	5.2	4.4	49.1	48.0	46.3	62.7	68.3
BB#	10.6	10.6	10.4	9.7	8.2	59.7	58.6	56.7	72.5	76.5
B##	17.0	17.1	16.9	12.7	10.8	76.7	75.6	73.6	85.2	87.2
CCC	3.2	3.3	3.3	3.5	2.5	80.0	78.9	76.9	88.7	89.7
CC#	6.5	6.7	6.9	4.8	3.7	86.5	85.6	83.8	93.5	93.4
C##	7.8	8.0	8.7	4.0	3.9	94.3	93.6	92.5	97.5	97.3
DDD	1.2	1.2	1.4	0.7	0.6	95.5	94.8	93.9	98.2	97.9
DD#	2.0	2.1	2.3	0.9	0.9	97.5	97.0	96.2	99.1	98.7
D##	1.6	1.9	2.3	0.6	0.8	99.1	98.9	98.6	99.7	99.5
EEE	0.2	0.3	0.4	0.2	0.2	99.4	99.2	98.9	99.9	99.7
EEU	0.3	0.4	0.4	0.1	0.1	99.6	99.5	99.4	100.0	99.9
EUU	0.2	0.3	0.4	0.0	0.1	99.9	99.8	99.8	100.0	99.9
UUU	0.1	0.2	0.2	0.0	0.1	100.0	100.0	100.0	100.0	100.0

Grade A* in all A level subjects

Our analyses of grade combinations focus on those students who entered 3 A levels. We have also calculated the number of students who received an A* in all their A levels, regardless of the number of subjects that they entered. This is shown in Table 4 compared to previous years, and includes both the number and percentage of students.

The total number and percentage of students receiving an A* in all their subjects in 2021 is higher than in 2020. For all students, the percentage has increased from 5.3% in 2020 to 8.3% in 2021. Of the students taking 3 A levels (the most common number of A levels), the percentage has increased from 4.3% in 2020 to 6.9% in 2021. In both years, just under 60% of these students are female.

Table 4. Number and percentage of students receiving an A* in all their A level subjects

Number of A levels	2017	2018	2019	2020	2021	% 2017	% 2018	% 2019	% 2020	% 2021
1	2,511	2,570	2,980	2,973	4,888	5.4	5.9	7.1	8.4	12.6
2	443	507	496	1,046	2,051	0.9	1.0	1.0	2.2	4.2
3	2,718	2,664	3,007	7,774	12,945	1.5	1.5	1.6	4.3	6.9
4	1,184	1,310	1,190	2,734	3,863	6.6	8.5	9.9	23.2	28.2
5+	65	60	28	64	96	7.2	9.9	10.8	30.9	39.5
Total	6,921	7,111	7,701	14,591	23,843	2.3	2.5	2.7	5.3	8.3

A level entries from private candidates

Private candidates entering GCSE, AS and A levels this summer have been assessed on a range of evidence, in a similar way to other students. We have collected data from exam boards that provides an indication of the number of entries from private candidates. It is important to note that our figures are only an estimate of the total number of entries from private candidates since exam boards rely on centres identifying if an entry is from a private candidate, and we know that this is not always done consistently. As such, our figures represent the number of entries that are reported (by centres) as being from private candidates. This means that making comparisons over time is challenging, since it is possible that centres may have been more consistent in some years than others when identifying entries from private candidates. It is also possible that the data is more consistent in some subjects than others.

Table 5 shows the total number of entries from private candidates in 2021 compared to previous years (a further breakdown by subject is provided in Annex A). While the number of entries from private candidates has fluctuated over time (and there were fewer entries from private candidates last summer given the approach to grading), as

outlined above, it is difficult to draw any firm conclusions given that the figures can only be considered an estimate.

Table 5. Number of A level entries reported (by centres) as being from private candidates

	2017	2018	2019	2020	2021
A level	16,753	13,433	13,950	4,904	7,424

Variability in A level centres' results

As in previous years, we have published interactive analytics showing the variability in centres' outcomes compared to 2020. These charts (an example of which is shown in Figure 2), plot the change in outcomes for individual centres in each subject at grade A and above (for A level) compared to 2020. The summary statistics show the average (mean) change in centres' outcomes compared to the previous year, and the spread (standard deviation) of the changes in outcomes (a higher standard deviation suggests that centres' outcomes are generally more variable, while a lower standard deviation suggests that centres' outcomes are generally less variable).

In general, for centres with more than 20 entries in a subject, the variation in centres' results is lower than it was in 2019, but slightly greater compared to 2020 (although this is not the case for every subject). This suggests that the assessment arrangements lessened the impact of the pandemic on centres' results – otherwise we would expect to see much greater variability in centres' results this year compared to the past. On our interactive analytics page it is possible to tailor the charts to focus on different age groups, centre sizes and stability of centres (the extent to which the number of entries for individual centres has remained stable over time).

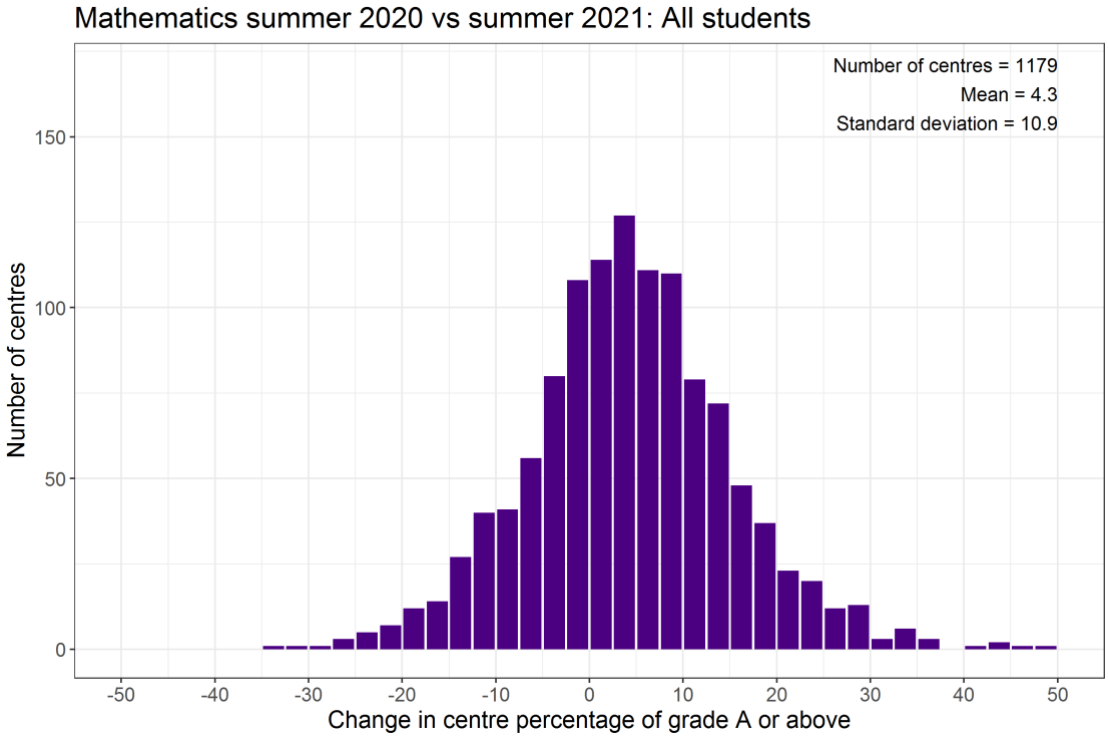

Figure 2. Centre variability for A level maths – summer 2020 vs. summer 2021

A level outcomes by centre type

We have compared the results of different types of centre across 2021, 2020 and 2019. Tables 6 to 8 show the number of centres and entries by centre type, the outcomes by centre type, and the relative and absolute change in outcomes over time, respectively, at grades A* to C. We have used the centre types from the national centre number (NCN) register. This analysis only includes centres with entries in all 3 years (hence there are some small differences for previous years compared to the figures that we published in our results report last December).

Outcomes for all types of centre have increased compared to 2020. The extent to which they have increased may partly reflect longstanding differences in the distribution of grades for different centre types. For example, in normal years, the distribution of grades for students attending independent centres is clustered around the top grades. A uniform increase in grades awarded across all types of school and college is therefore most likely to benefit students attending independent schools at the top grades. For other centre types, the impact of increased grades may be lower down the grade distribution – wherever most of their candidates are normally clustered.

This clustering of students at different points in the grade distribution means it is helpful to consider both the relative and absolute changes in outcomes across centre

types. This is because relative changes on small numbers often look big, but relative changes on big numbers often look small. On the other hand, absolute changes on small numbers often look small, but absolute changes on big numbers often look big. Therefore, it is important to explore both types of change.

At grade A, the largest relative increase is for 'other' centres[2] (+22.5%), further education establishments (+21.4%) and secondary comprehensives (+18.7%), and the smallest increase is for sixth form colleges (+12.0%). The increases for independent centres and academies at grade A are partway between the highest and lowest changes (+15.2% and +15.8%, respectively). At grade C, the relative changes are similar across centre types, ranging from -0.1% to +2.2% compared to 2020. The smaller changes at grade C reflect the overall stability in outcomes at this grade compared to 2020.

In absolute terms, the increase in outcomes at grade A is largest for 'other' centres (+9.4pp) and independent centres (+9.3pp). At grade C, outcomes are relatively stable for all centre types, reflecting the stability in overall outcomes. The largest increases at grade C are for 'other' centres (+1.9pp) and free schools (+1.6pp).

Exam boards looked at student work from all types of school and college as part of the external quality assurance process. They did not find that any type of school or college was more likely than others to have provided grades that did not reflect the standard of their students' work. Indeed, they found that, irrespective of the type of school or college, the grades were largely supported by the quality of students' work. It is also worth noting that more able students are also generally more capable of independent study.

[2] 'Other' centres, for example, college of higher education, university department, tutorial college, language school, special school, pupil referral unit (PRU), HM Young Offender Institute (HMYOI), HM Prison, training centre.

Table 6. A level entries by centre type compared to 2019 and 2020

Centre Type	N centres	Entries 2019	Entries 2020	Entries 2021
Academy	1,155	285,968	283,038	296,475
FE Establishment	81	20,381	21,303	22,783
Free Schools	39	7,331	7,877	8,728
Independent	520	95,864	92,562	93,853
Other	90	6,713	6,324	8,101
Sec Comp or Middle	499	100,970	99,300	104,656
Secondary Modern	30	3,099	3,241	3,396
Secondary Selective	78	31,956	31,929	32,490
Sixth Form College	105	118,016	118,699	122,047
Tertiary College	28	18,944	19,232	20,750

Table 7. A level cumulative percentage outcomes by centre type compared to 2019 and 2020

Centre Type	Cum % grade A* 2019	Cum % grade A 2019	Cum % grade B 2019	Cum % grade C 2019	Cum % grade A* 2020	Cum % grade A 2020	Cum % grade B 2020	Cum % grade C 2020	Cum % grade A* 2021	Cum % grade A 2021	Cum % grade B 2021	Cum % grade C 2021
Academy	7.0	23.7	49.9	75.3	13.2	36.2	64.0	87.1	17.1	41.9	68.3	87.7
FE Establishment	2.7	12.2	35.4	63.9	6.8	23.7	51.5	80.0	8.9	28.8	56.0	81.0
Free Schools	7.7	26.7	51.9	73.2	15.5	40.0	66.7	87.2	19.2	46.6	72.0	88.8
Independent	16.1	44.0	70.8	87.5	27.4	60.8	84.3	95.8	39.5	70.1	88.3	96.4
Other	6.3	20.5	40.2	62.9	16.1	41.7	66.9	86.6	24.8	51.1	72.7	88.5
Sec Comp or Middle	5.5	20.0	45.6	72.2	11.4	33.1	61.2	86.0	15.3	39.3	66.0	86.7
Secondary Modern	4.9	17.3	38.6	64.2	10.6	29.9	56.8	83.5	14.0	35.3	61.3	83.6
Secondary Selective	11.7	36.1	63.6	83.4	20.1	49.1	75.2	91.9	25.8	56.6	79.4	92.2
Sixth Form College	6.1	21.9	48.5	74.5	10.4	31.5	60.0	84.6	12.3	35.3	63.2	85.0
Tertiary College	5.1	20.6	48.6	75.4	9.3	30.0	60.4	86.0	12.1	34.5	63.6	85.9

Table 8. A level relative and absolute changes by centre type compared to 2020

Centre Type	Grade A* 2021-2020 relative change	Grade A 2021-2020 relative change	Grade B 2021-2020 relative change	Grade C 2021-2020 relative change	Grade A* 2021-2020 absolute change (pp)	Grade A 2021-2020 absolute change (pp)	Grade B 2021-2020 absolute change (pp)	Grade C 2021-2020 absolute change (pp)
Academy	29.8%	15.8%	6.8%	0.7%	3.9	5.7	4.3	0.6
FE Establishment	31.4%	21.4%	8.7%	1.2%	2.1	5.1	4.5	1.0
Free Schools	24.5%	16.6%	8.0%	1.8%	3.8	6.6	5.3	1.6
Independent	44.1%	15.2%	4.7%	0.6%	12.1	9.3	4.0	0.6
Other	53.4%	22.5%	8.8%	2.2%	8.6	9.4	5.9	1.9
Sec Comp or Middle	34.0%	18.7%	7.7%	0.8%	3.9	6.2	4.7	0.7
Secondary Modern	31.8%	18.0%	7.8%	0.1%	3.4	5.4	4.5	0.1
Secondary Selective	28.8%	15.2%	5.5%	0.3%	5.8	7.5	4.2	0.3
Sixth Form College	18.6%	12.0%	5.3%	0.5%	1.9	3.8	3.2	0.4
Tertiary College	30.6%	15.0%	5.3%	-0.1%	2.8	4.5	3.2	-0.1

A level outcomes by region

JCQ have published regional A level results (cumulative percentages) that we have replicated below in Table 9 for grades A and C (other grades are available via JCQ). The rank order of regions according to their results is broadly similar to 2020 and the percentage of students achieving grade A has increased in all regions. As is the case every year, there is some variation in the size of the increase across regions. At grade A the greatest increase was in London where the rate increased by 7.2pp compared to 2020. At grade C the greatest increase was in the East Midlands where the rate increased by 1.6pp compared to 2020. As with the differences seen across centre types, these regional changes will partly reflect the well-established clustering of students around different parts of the grade distribution.

Table 9. A level cumulative percentage outcomes and percentage point (pp) changes by region compared to 2020

Region	Cum % grade A 2020	Cum % grade C 2020	Cum % grade A 2021	Cum % grade C 2021	Grade A change (pp) 2021-2020	Grade C change (pp) 2021-2020
North East	35.6	88.1	39.2	87.7	3.6	-0.4
North West	35.8	87.0	41.4	87.6	5.6	0.6
Yorkshire and the Humber	35.0	86.7	41.1	87.6	6.1	0.9
West Midlands	35.0	86.1	40.9	87.2	5.9	1.1
East Midlands	34.5	85.4	41.3	87.0	6.8	1.6
Eastern Region	38.3	87.5	44.8	88.5	6.5	1.0
South West	38.8	88.1	44.7	88.1	5.9	0.0
South East	41.2	88.7	47.1	89.2	5.9	0.5
London	40.7	88.1	47.9	88.9	7.2	0.8

Analyses of GCSE results

This section provides an overview of our analyses for GCSE. The analyses are broadly similar to those undertaken for A level. However, given that students typically take a larger number of subjects at GCSE, some of the A level analyses are not replicated here – in particular, those relating to grade combinations. This is also because those analyses are more relevant to A level results, since they are directly relevant to HE admissions.

As for A level, our analyses use data submitted to us by exam boards around a week before results are issued, meaning that there might be some small differences in the total number of students compared to the more complete JCQ figures.

Overall GCSE outcomes compared to 2020

JCQ have published overall GCSE results for summer 2021, including breakdowns by subject group and gender. These figures show that for all students in England, overall GCSE outcomes are higher at grade 7 compared to 2020 (+2.6pp), and relatively stable at grade 4 (+1.0pp) and grade 1 (-0.6pp). The trends are similar when considering outcomes for 16-year-olds, with the greatest increase at grade 7 (+2.5%), and relatively stable outcomes at grade 4 (+0.3pp) and grade 1 (-0.4pp).

The JCQ figures also show that, although outcomes are higher than summer 2020 in all subjects at the top grades, the extent of the differences vary by subject. For example, at grade 7 outcomes are higher than 2020 for all students to the greatest extent in physical education (+7.1pp), followed by economics (+6.3pp) and computing and social science subjects (both +5.9pp). The smallest increase at grade 7 is for art and design (+0.6pp) and 'other' sciences (+0.9pp). At grade 4 the pattern is slightly different and outcomes are more stable compared to 2020, with increases in some subjects and decreases in others.

Number and average number of GCSE qualifications per student

As for A level, we have calculated the average number of GCSEs per student and the number of GCSEs per student (for 16-year-olds taking at least one GCSE each year). Table 10 shows that the average number of GCSEs per student has remained relatively stable over time, and consistent between 2020 and 2021. Furthermore, the number of qualifications per student has also remained relatively stable (Table 11), with the majority of students taking 7 to 9 GCSEs. There has been a slight increase

in the percentage of students taking 7 or 8 GCSEs over time, and a slight decrease in the percentage of students taking 9 or 10+ GCSEs.

Table 10. Average number of GCSE qualifications per student

	2018	2019	2020	2021
Average GCSEs	8.09	7.90	7.84	7.85

Table 11. Percentage of students by the number of GCSEs taken per student

Number of GCSEs	2018	2019	2020	2021
1	1.7	1.5	1.3	1.2
2	1.9	2.0	1.9	1.8
3	1.7	1.7	1.7	1.5
4	1.6	1.6	1.9	1.7
5	2.5	3.0	3.2	2.8
6	5.4	7.5	7.9	7.9
7	11.8	15.0	15.8	16.6
8	21.6	23.1	23.7	24.6
9	30.1	27.0	26.5	27.1
10+	21.6	17.7	16.1	15.0

Grade 9 in reformed GCSE subjects

As in previous years, we have calculated the number of 16-year-old students in England who entered 7 or more GCSEs and received a grade 9 in all subjects. Table 12 shows that the number of students receiving all grade 9s is higher in 2021 compared to previous years – 3,606 students compared to 2,645 in 2020 and 837 in 2019 (note that in 2019 reformed GCSEs were not yet available in a small number of language subjects). The gender split for students receiving all grades 9s is similar to previous years (just under two thirds of students are female).

Table 12. Number of 16-year-old students receiving grade 9s in all GCSEs

Number of GCSEs	2019	2020	2021
7	78	212	287
8	93	344	469
9	240	732	1,058
10	293	1,041	1,454
11	123	291	322
12	10	25	16
Total	837	2,645	3,606

Post-16 outcomes for GCSE English language and maths

On GCSE results day each year, we typically publish outcomes for post-16 students in English language and maths, broken down by age (17-year-olds, 18-year-olds, and 19+).[3] These are shown below for 2021 in Table 13. Because the number of post-16 entries has changed in 2021 for both subjects we have not compared outcomes in 2021 to previous years, since the nature of the cohort might also have changed meaning that comparisons over time might be misleading.

Table 13 shows that there are differences in outcomes between age groups, although this is likely to reflect the nature of the candidates. For example, entries from 17-year-olds are likely to be from students who did not achieve a grade 4 at age 16 and who are required to continue studying these subjects to be funded post-16. Entries from 19-year-olds are adult learners who may have different reasons for entering these subjects at GCSE.

Table 13. Post-16 GCSE English language and maths cumulative percentage outcomes

Subject and age	Cum % grade 7	Cum % grade 4
English language, age 17	2.5	38.1
English language, age 18	1.4	40.6
English language, age 19+	6.7	50.6
Maths, age 17	1.8	33.4
Maths, age 18	0.6	36.1
Maths, age 19+	2.9	48.8

GCSE entries from private candidates

As for A level, we have provided the number of GCSE entries that are reported (by centres) as being from private candidates in summer 2021. These figures should be considered an estimate of the total number of entries from private candidates, since the limitations of the data, as described above, also apply to GCSE (meaning the figures that we obtain from exam boards rely on centres identifying if an entry is from a private candidate, and this is not always done consistently). This means that making comparisons over time is challenging.

Table 14 shows the total number of entries reported as being from private candidates (by centres) in 2021 compared to previous years (a further breakdown by

[3] Note that JCQ also publish post-16 outcomes, but do not break this down by age group.

subject is provided in Annex B). While the number of entries from private candidates has fluctuated over time (and there were fewer entries from private candidates last summer given the approach to grading), as outlined above, it is difficult to draw any conclusions given that the figures can only be considered an estimate.

Table 14. Number of GCSE entries reported (by centres) as being from private candidates

	2017	2018	2019	2020	2021
GCSE	14,845	15,180	14,326	8,939	12,660

Variability in GCSE centres' results

We have published interactive analytics showing the variability in centres' GCSE outcomes compared to 2020. These charts follow the same format as outlined above, and our interactive apps allow users to tailor the charts to focus on different age groups, centre sizes and stability of centres (the extent to which the number of entries for individual centres has remained stable or changed over time).

Generally, at grade 7 (for centres with more than 25 entries in a particular subject), variation in centres' results is lower than it was in 2019 and only slightly greater than in 2020 (although this is not the case for every subject). Generally, at grade 4 variation in centres' results is less in 2021 compared to 2020 and 2019 (although again not for every subject). This suggests that the assessment arrangements lessened the impact of the pandemic on centres' results – otherwise we would expect to see much greater variability in centres' results this year compared to the past.

GCSE outcomes by centre type

As for A level, we have calculated outcomes by centre type compared to 2019 and 2020, and have calculated the relative and absolute change in outcomes at grades 7 and 4 compared to 2020. Tables 15 to 17 show the number of centres and entries by centre type, the cumulative percentage outcomes, and the relative and absolute changes compared to 2020, respectively. This analysis only includes centres with entries in all 3 years (hence there are some small differences for 2019 and 2020 compared to the figures that we published in our results report last December).

In relative terms, the largest increase compared to 2020 at grade 7 is for sixth form colleges (+50.8%) and further education establishments (+46.1%), and the smallest increase is for secondary selective (+4.2%) and independent schools (+7.1%). At grade 4, the largest increase is for further education establishments (+16.2%), tertiary colleges (+12.1%), 'other' centres (+8.2%) and sixth form colleges (+5.6%). For all other centre types (including secondary comprehensives and academies) the relative change is very small at grade 4 (less than 1%).

In absolute terms, there are some small differences in the extent to which outcomes differ compared to 2020 by centre type and grade. At grade 7, outcomes are higher than 2020 to a slightly greater extent for independent schools (+4.0pp) and free schools (+3.6pp). When considering outcomes at grade 4 though, the differences compared to 2020 are greatest for further education establishments (+5.3pp) and tertiary colleges (+4.9pp).

Exam boards looked at student work from all types of school and college as part of the external quality assurance process. They did not find that any type of school or college was more likely than others to have provided grades that did not reflect the standard of their students' work. Indeed, they found that, irrespective of the type of school or college, the grades were usually supported by the quality of students' work. The changes may therefore reflect the uneven impact of the pandemic which will have been lessened by the assessment arrangements. It is also worth noting that more able students might be more capable of independent study.

Table 15. GCSE entries by centre type compared to 2019 and 2020

Centre Type	N centres	Entries 2019	Entries 2020	Entries 2021
Academy	2,010	2,663,887	2,735,503	2,773,089
FE Establishment	330	198,417	221,665	200,481
Free Schools	136	66,435	70,569	72,704
Independent	856	227,650	233,147	234,377
Other	857	73,571	78,590	75,500
Sec Comp or Middle	1,025	1,404,561	1,441,248	1,466,482
Secondary Modern	70	76,851	78,335	80,337
Secondary Selective	85	109,203	111,517	115,568
Sixth Form College	100	29,176	30,767	24,926
Tertiary College	54	35,043	37,629	34,024

Table 16. GCSE cumulative percentage outcomes by centre type compared to 2019 and 2020

Centre Type	Cum % grade 7 2019	Cum % grade 4 2019	Cum % grade 7 2020	Cum % grade 4 2020	Cum % grade 7 2021	Cum % grade 4 2021
Academy	20.7	69.1	25.9	77.8	28.1	78.2
FE Establishment	1.0	24.1	1.7	32.8	2.4	38.2
Free Schools	20.5	68.8	26.2	79.0	29.8	79.0
Independent	46.6	89.9	57.2	95.6	61.2	95.5
Other	7.3	36.9	10.4	50.2	13.1	54.3
Sec Comp or Middle	18.4	67.3	23.7	77.0	26.1	77.3
Secondary Modern	13.8	61.7	18.0	72.0	20.4	71.5
Secondary Selective	57.9	96.7	65.6	98.9	68.4	98.7
Sixth Form College	2.5	33.6	3.7	47.7	5.6	50.3
Tertiary College	4.4	31.0	5.3	40.7	6.5	45.7

Table 17. GCSE relative and absolute changes by centre type compared to 2020

Centre Type	Grade 7 2021-2020 relative change	Grade 4 2021-2020 relative change	Grade 7 2021-2020 absolute change (pp)	Grade 4 2021-2020 absolute change (pp)
Academy	8.6%	0.5%	2.2	0.4
FE Establishment	46.1%	16.2%	0.8	5.3
Free Schools	13.8%	0.0%	3.6	0.0
Independent	7.1%	-0.1%	4.0	-0.1
Other	26.1%	8.2%	2.7	4.1
Sec Comp or Middle	9.7%	0.3%	2.3	0.3
Secondary Modern	13.4%	-0.7%	2.4	-0.5
Secondary Selective	4.2%	-0.2%	2.8	-0.2
Sixth Form College	50.8%	5.6%	1.9	2.7
Tertiary College	22.9%	12.1%	1.2	4.9

GCSE outcomes by region

JCQ have published regional GCSE cumulative percentage outcomes, that we have replicated below for grades 7 and 4 (Table 18). As outlined above, it is important to bear in mind that there are long-standing differences in outcomes by region that exist every year.

The rank order of regions according to their results is extremely similar to 2020 and the percentage of students achieving both grades 7 and 4 has increased in all regions. As is the case every year, there is some variation in the size of the increase across regions. At grade 7 the greatest increase was in London where the rate has increased by 3.1pp. At grade 4 the greatest increase was in the North East where the rate has increased by 1.7pp.

Table 18. GCSE cumulative percentage outcomes by region compared to 2020

Region	Cum % grade 7 2020	Cum % grade 7 2021	Cum % grade 4 2020	Cum % grade 4 2021	Grade 7 change (pp) 2021-2020	Grade 4 change (pp) 2021-2020
North East	22.0	24.5	73.8	75.5	2.5	1.7
North West	23.5	25.9	74.2	75.0	2.4	0.8
Yorkshire and the Humber	22.3	24.4	72.6	73.5	2.1	0.9
West Midlands	23.0	25.3	73.3	74.3	2.3	1.0
East Midlands	23.0	25.1	74.9	75.4	2.1	0.5
Eastern Region	25.9	28.5	76.2	77.1	2.6	0.9
South West	26.1	29.1	77.6	78.6	3.0	1.0
South East	29.0	31.9	78.2	79.3	2.9	1.1
London	31.4	34.5	79.0	79.7	3.1	0.7

Annex A

Number of A level entries reported (by centres) as being from private candidates by subject (rounded to nearest 5, less than 5 replaced by 0~).

Subject	2017	2018	2019	2020	2021
All Other Subjects	185	265	175	45	65
Art & Design Subjects	65	85	60	25	40
Biology	2200	1355	1715	790	1095
Business Studies	415	385	400	120	250
Chemistry	1970	1390	1755	820	1115
Classical Subjects	160	135	120	25	55
Computing	50	40	70	25	50
Design And Technology	90	55	45	10	0~
Drama	45	50	15	15	15
Economics	815	540	640	230	250
English Language	155	85	60	35	70
English Language & Literature	90	65	55	20	55
English Literature	435	345	305	170	180
French	225	150	125	45	105
Geography	485	285	165	85	95
German	95	45	55	25	15
History	520	385	395	200	190
Law	200	175	170	25	110
Mathematics	3555	3435	3320	865	1280
Mathematics (Further)	485	510	445	120	155
Media / Film / Tv Studies	70	80	35	10	40
Music	40	20	40	20	15
Other Modern Languages	900	880	1245	275	555
Other Sciences	30	20	5	0	5
Performing / Expressive Arts	0~	0	10	0~	0~
Physical Education	65	40	20	10	15
Physics	905	670	730	290	405
Political Studies	345	400	305	100	105
Psychology	1120	755	840	295	515
Religious Studies	395	300	150	55	60
Sociology	435	345	335	110	235
Spanish	210	145	145	40	90

Annex B

Number of GCSE entries reported (by centres) as being from private candidates by subject (rounded to nearest 5, less than 5 replaced by 0~). Note there were some changes to subject availability following reform (for example, GCSE science).

Subject	2017	2018	2019	2020	2021
Additional Science	300	NA	NA	NA	NA
Additional Science (Further)	5	NA	NA	NA	NA
Art And Design Subjects	55	40	55	45	55
Biology	145	240	355	210	355
Business Studies	35	30	135	90	100
Chemistry	85	135	205	115	235
Citizenship Studies	5	20	20	15	20
Classical Subjects	75	95	130	85	110
Computing	25	30	35	55	85
Design & Technology	15	10	0~	0~	10
Drama	10	5	5	10	20
Economics	15	10	15	5	15
Engineering	0~	0	0	0	0
English	3070	3830	3125	2435	3305
English Literature	395	640	825	460	545
French	110	75	105	45	70
Geography	80	85	140	65	105
German	45	40	75	20	40
History	90	190	255	215	200
Mathematics	6830	5860	5155	2690	4165
Media / Film / Tv Studies	40	40	20	35	20
Music	40	30	50	35	25
Other Modern Languages	1495	1895	1220	805	1265
Other Sciences	80	20	60	5	10
Performing / Expressive Arts	105	75	100	85	90
Physical Education	50	10	15	30	30
Physics	75	125	185	115	205
Religious Studies	435	210	300	220	255
Science	555	NA	NA	NA	NA
Social Science Subjects	405	480	320	110	260
Spanish	150	120	140	70	80
Statistics	15	25	60	30	45
Food Preparation & Nutrition	NA	15	5	0~	20
Science: Double Award	NA	800	1220	840	925

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