

Ofqual consultation on grading specified general qualification in 2020: GCSEs, AS, A Levels, Extended Project Qualifications and Advanced Extension Award

April 2020

The Royal Society of Biology responded to Ofqual's consultation on exceptional arrangements for grading and assessment in 2020 following cancellation of the summer exam series in England due to Covid-19 disruptions. To inform this response, the Society consulted with RSB's Education and Science Policy Committee, Curriculum Committee, Education Policy Advisory Group, Heads of University Bioscience, Accreditation Committee and Biology Education Research Group, as well as discussion with the Association for Science Education, Institute of Physics, Royal Society and Royal Society of Chemistry.

Centre assessment grades

QUESTION – to what extent do you agree or disagree that we should incorporate the requirement for exam boards to collect information from centres on centre assessment grades and their student rank order, in line with our published information document, into our exceptional regulatory requirements for this year?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
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QUESTION – to what extent do you agree or disagree that exam boards should only accept centre assessment grades and student rank orders from a centre when the Head of Centre or their nominated deputy has made a declaration as to their accuracy and integrity?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
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QUESTION – to what extent do you agree or disagree that Heads of Centre should not need to make a specific declaration in relation to Equalities Law?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
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QUESTION – to what extent do you agree or disagree that students in year 10 and below who had been entered to complete exams this summer should be issued results on the same basis as students in year 11 and above?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
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QUESTION – to what extent do you agree or disagree that inappropriate disclosure of centre assessment judgements or rank order information should be investigated by exam boards as potential malpractice?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
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QUESTION – do you have any comments about our proposals for centre assessment grades?

The Royal Society of Biology welcomes confidence in teachers' professional judgement. Teachers and centres should be supported by Ofqual and exam boards to make objective judgements based on evidence. To ensure this, a Head of Centre must be familiar with the peculiarities of subjects before they sign declaration indicating accuracy and integrity.

Producing a rank order for an entire cohort will be extremely challenging; while individual teachers may be able to do so for their own classes, few teachers will have a reliable overview of an entire cohort based on their own professional judgement.

For the sciences there are peculiarities compared with other subjects, including:

- Combined sciences – 17 point grading scale on a relatively new specification, which teachers are still adjusting to.
- Biology GCSE and Combined sciences – For the majority of schools the GCSE cohort is split into two routes, Heads of Centre will need to be aware of this when reviewing cohort data will not cover the full breadth of attainment of the cohort as will be the case for other subjects at GCSE.
- Awarding the practical endorsement at A Level given missed teaching time this year.
- Tiered entry – the sciences are one of only a few subjects with tiered entry, which will lead to more uncertainty as term time evidence is unlikely to include tiered level information.
- Teachers of the sciences at GCSE and A level are likely to share classes between 2 or more teachers.

It is important that Combined Science students are not disadvantaged compared to their peers awarded more traditional individual Physics, Chemistry and Biology GCSEs on a 9 point grading scale.

The Royal Society of Biology recommends additional guidance is produced for the following groups:

Centres

Guidance should be provided to ensure the use of historic data by centres does not detrimentally impact individual students or further exacerbate systemic issues with grading severity and progression to A level. Such data could be provided to Heads of Centre by exam boards, for example three years of data to confirm the new process introduces neither inflation nor deflation of the student grades.

Teachers

- Teachers of Combined Science GCSE may require further guidance on providing a most likely grade for individual students given the 17 point grading scale for this double GCSE qualification.
- Teachers of Biology, Chemistry and Physics A level will also require guidance on how practical endorsements should be awarded; whether work so far can be considered a pass.
- Transparency is important, centres and their teachers should be informed of the balance in weighting between centre assessment grades and the student rank order.

Parents and students

Clear and direct statements from Ofqual or exam boards, explaining that teachers' judgements form part of the final calculated grade this year, and an explicit statement that teachers will not be releasing the grades or student rank order submissions to students or parents. Parents and students should also be made aware of the role of exam boards and statistical approach, i.e. exam boards can provide additional context: prior attainment, historical outcomes and national distribution, to ensure grades are more reflective of a standardised, national examination process.

Universities and future employers

Clear, concise and easy to access communications on the approach taken for this cohort will be crucial to help them understand what the grades mean and the way that they have been calculated. Detailed memory of the arrangements will be short-lived, while future employers are likely to remember that things were different this year.

On Equalities Law declaration requirement

The Royal Society of Biology disagrees with the proposal that Heads of Centre should not be required to make a specific declaration in relation to Equalities Law.

While we agree it may be an additional burden for schools to conduct an Equalities Impact Assessment, equality issues, unconscious or conscious bias, there may be a huge impact on individual students' progression and it is important that time and resource is dedicated to ensuring those who are already likely to be disadvantaged are not more so due to these exceptional arrangements.

The consultation document states "the relevant considerations will have been taken into account in the data underpinning the centre assessment grades and rank order information" – this statement transfers to centres the responsibility for ensuring issues regarding bias and equality, but without any expectation that this is assessed. Schools should be urgently surveyed to assess whether they feel an equality impact assessment would be too burdensome in this short timeline.

The Royal Society of Biology recommends that:

- The Head of Centre declares they are aware of, or have been provided evidence of, possible equality issues particular to the subject area.
- Ofqual signposts unconscious bias or other equalities training for all Heads of Centre, and ideally all teachers submitting centre assessed grades and rank orders. If possible, the best product for teachers would be bespoke training developed by Ofqual highlighting possible biases identified in the literature review and with input from organisations that have already worked in this area.
- Any equalities metrics include FSM, Special Educational Needs provision, English as an Additional Language and other common school metrics. These characteristics are not explicitly referred to in the Equalities Act (2010)
- Schools are urgently surveyed by Ofqual to ascertain whether providing this information to Heads of Centre or conducting an Equality Impact Assessment would be an unmanageable burden for GCSE cohorts

Issuing results

QUESTION – to what extent do you agree or disagree that we should incorporate into the regulatory framework a requirement for all exam boards to issue results in the same way this summer in accordance with the approach we will finalise after this consultation and not by any other means?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
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QUESTION – do you have any comments about our proposal for the issuing of results?

Exam board procedures should be maintained and results should only be released through approved means.

It is not clear from these proposals how practical endorsements at A level will be awarded, only that they should remain confidential this year in line with centre assessment grade and student rank order confidentiality. We feel, in line with the wider approach to ensuring progression and fair awards for GCSE and A level, that no students should be disadvantaged due to missed compulsory practical activities for the practical endorsement award. If a student was on track in work completed so far for the endorsement, it should be awarded.

The Royal Society of Biology recommends that clear guidance is produced for centres, students and Universities on what exceptional arrangements are being made for practical endorsements in 2020.

Impact on students

QUESTION – to what extent do you agree or disagree that we should only allow exam boards to issue results for private candidates for whom a Head of Centre considers that centre assessment grades and a place in a rank order can properly be submitted?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
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QUESTION – to what extent do you agree or disagree that the arrangements we put in place to secure the issue of results this summer should extend to students in the rest of the UK?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
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QUESTION – to what extent do you agree or disagree that the arrangements we put in place to secure the issue of results this summer should extend to all students, wherever they are taking the qualifications?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
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QUESTION – do you have any comments about the impact of our proposals on any particular groups of students?

No further comments

Statistical standardisation of centre assessment grades

The proposed aims of the standardisation process are as follows:

1. to provide students with the grades that they would most likely have achieved had they been able to complete their assessments in summer 2020
2. to apply a common standardisation approach, within and across subjects, for as many students as possible
3. to use a method that is transparent and easy to explain, wherever possible, to encourage engagement and build confidence
4. to protect, so far as is possible, all students from being systematically advantaged or disadvantaged, notwithstanding their socio-economic background or whether they have a protected characteristic
5. to be deliverable by exam boards in a consistent and timely way that they can quality assure and can be overseen effectively by Ofqual

We will seek to meet these aims while maintaining the standard of qualifications over time. Where the aims listed above are in tension (for example, accuracy of approach versus ease of explanation), we will seek to find an optimal balance.

QUESTION – to what extent do you agree or disagree with the aims outlined above?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
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QUESTION - to what extent do you agree or disagree that using an approach to statistical standardisation which emphasises historical evidence of centre performance given the prior attainment of students is likely to be fairest for all students?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
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QUESTION - to what extent do you agree or disagree that the trajectory of centres' results should NOT be included in the statistical standardisation process?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
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QUESTION - to what extent do you agree or disagree that the individual rank orders provided by centres should NOT be modified to account for bias regarding different students according to their particular protected characteristics or their socio-economic backgrounds?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
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QUESTION – to what extent do you agree or disagree that we should incorporate the standardisation approach into our regulatory framework?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
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QUESTION – do you have any comments about our proposals for the statistical standardisation of centre assessment grades?

The Royal Society of Biology supports the proposed aims of this standardisation process and agrees that the approach should be incorporated into the regulatory framework, requiring each exam board is to adopt a common approach to standardisation.

While the wording of the stated aims is clear, the process is dependent on clear and transparent publication of the algorithm being used. This should be done as soon as possible to instill confidence and prevent student and teacher stress.

With research suggesting that half of centre assessed grades are likely to be accurate, a weighting towards a statistical approach that takes into account ranking of students and aims to remove differences between centres is appropriate.

On the use of historic centre data

The Royal Society of Biology seeks clarity from Ofqual on the use of historic centre data, as proposals seem to state that centre trajectory will not be taken into account due to research evidence that trajectories year on year are not consistent, while also stating the statistical approach will include historic centre data. Use of historic data is least likely to affect well-resourced schools, ranking well in league tables and with good Ofsted ratings.

It is well known that different cohorts, both within schools and nationally, do not have the same distribution of ability. Care needs to be taken to ensure that comparisons of grades are made over a number of years, not simply the cohort from the previous academic years within an institution.

The Royal Society of Biology recognises the many factors that can influence historic data, for example:

- Cohorts may vary drastically in terms of size, attainment and demography.
- Individual centres may have made significant changes to their curriculum to improve cohort attainment.
- Current Year 13 are the first students to have experience the new GCSE specifications and 9 to 1 grading system. Their experience and GCSE results will be significantly different to that of previous A level cohorts.

On correcting potential bias in centre assessment grades

The Royal Society of Biology feels strongly that conducting an equally impact assessment at centre level is important to meet aim iv, detailed on page 27: “to protect, so far as is possible, all students from being systematically advantaged or disadvantaged, notwithstanding their socio-economic background or whether they have a protected characteristic”

We recommend that centre-level analysis be considered as part of the statistical standardisation for GCSE awards without committing to statistical adjustments – if characteristics and demographic data are provided alongside student rank order for a given centre, groupings of particular characteristics out of line with expected distribution could trigger further engagement with the centre and review of the centre assessed grade or ranked data.

The statistical validity of a standardisation approach may detrimentally impact A level students more so than GCSE students. The selective nature of A levels leads to smaller cohort sizes, and schools with low socio-economic status or small cohorts may

only have a handful of students entered for an A level subject in any given year. We therefore suggest the centre-level analysis is only conducted at GCSE.

If this is not possible, Heads of Centre should be expected to conduct an Equality Impact Assessment as part of their declaration.

In either case if discrepancies or trends are identified for specific characteristics, Heads of Centre should be required to justify those rankings. The Royal Society of Biology agrees that rank orders provided by centres should not be modified on a national statistical basis by the exam board.

On the need for analysis beyond results day

The Royal Society of Biology further recommends that a post-results analysis on protected characteristics and common school metrics e.g. Free School Meals, is conducted.

The Royal Society of Biology has, along with other organisations, previously flagged to Ofqual issues regarding grading severity in the sciences and modern foreign languages. While we do not expect unusual adjustments to be made in our subjects at this time, we are aware that Ofqual intended to ask exam boards to report on one sided grade boundary adjustments from 2020. We would ask that Ofqual carries out an analysis on this and the next cohort's results to assess whether this year's calculated grade outcomes reflect, improve or exacerbate the trends seen in grading severity in A level physics, chemistry and biology

In summary, the Royal Society of Biology recommends:

- The algorithm used to calculate final grades, including how historic data is used, should be published as soon as possible and should be transparent.
- Development of the statistical standardisation model should consider the statistical validity of this approach for very small cohorts in any given centre.
- Either centre-level equality analysis is conducted by exam boards, triggering further discussion with any flagged centres, or an expectation that centres conduct an Equality Impact Assessment before signing their declaration.
- A post-results day analysis is conducted at a national level on protected characteristics and common school metrics, regardless of whether centre-level equality impact assessments have been carried out as part of this award process.
- A future analysis is conducted, for the next four cohorts, on whether the calculated grade awards reflect, improve, or exacerbate the trends seen in grading severity and progression to A level physics, chemistry and biology.

Appealing the results

QUESTION – to what extent do you agree or disagree that we should not provide for a review or appeals process premised on scrutiny of the professional judgements on which a centre's assessment grades are determined?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
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QUESTION – to what extent do you agree or disagree that we should not provide for a student to challenge their position in a centre's rank order?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
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QUESTION – to what extent do you agree or disagree that we should not provide for an appeal in respect of the process or procedure used by a centre?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
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QUESTION – to what extent do you agree or disagree that we should provide for a centre to appeal to an exam board on the grounds that the exam board used the wrong data when calculating a grade, and/or incorrectly allocated or communicated the grades calculated?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
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QUESTION – to what extent do you agree or disagree that for results issued this summer, exam boards should only consider appeals submitted by centres and not those submitted by individual students?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
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QUESTION – to what extent do you agree or disagree that we should not require an exam board to ensure consent has been obtained from all students who might be affected by the outcome of an appeal before that appeal is considered?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
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QUESTION – to what extent do you agree or disagree that exam boards should not put down grades of other students as a result of an appeal submitted on behalf of another student?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
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QUESTION – to what extent do you agree or disagree that exam boards should be permitted to ask persons who were involved in the calculation of results to be involved in the evaluation of appeals in relation to those results?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
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QUESTION – to what extent do you agree or disagree that exam boards should be able to run a simplified appeals process?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
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QUESTION – to what extent do you agree or disagree that we should not provide for appeals in respect of the operation or outcome of the statistical standardisation model?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
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QUESTION – to what extent do you agree or disagree with our proposal to make the EPRS available to centres for results issued this summer?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
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QUESTION – do you have any comments about our proposals for appealing results?

No further comments

An autumn exam series

QUESTION – to what extent do you agree or disagree that entries to the autumn series should be limited to those who were entered for the summer series, or those who the exam board believes have made a compelling case about their intention to have entered for the summer series (as well as to students who would normally be permitted to take GCSEs in English language and mathematics in November)?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
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To which qualifications will the emergency regulatory measures apply

QUESTION – to what extent do you agree or disagree that we should apply the same provisions as GCSE, AS and A level qualifications to all Extended Project Qualifications and to the Advanced Extension Award qualification?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
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QUESTION – do you have any comments about the qualifications to which the exceptional regulatory measures will apply?

No further comments

Building the arrangements into our regulatory framework

QUESTION – to what extent do you agree or disagree that we should confirm that exam boards will not be permitted to offer opportunities for students to take exams in May and June 2020?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
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QUESTION – to what extent do you agree or disagree with our proposals that exam boards will not be permitted to offer exams for the AEA qualification or to moderate Extended Project Qualifications this summer?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
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QUESTION – do you have any comments about our proposals for building our arrangements into our regulatory framework?

No further comments

Equality Impact Assessment

QUESTION: Are there other potential equality impacts that we have not explored? If yes, what are they?

The proposals outlined in this consultation document do not appropriately identify the impact on particular groups of students, particularly gender, race, disability and socio-economic status. For the sciences bias affecting these groups, particularly gender, has an impact throughout formal education.

Our existing exam system is anonymised and blind marked. However the exceptional arrangements, which rightly focus on teacher as best placed to make professional judgements of individual students, will unavoidably introduce an element of bias and subjectivity in centre assessed grades.

The Royal Society of Biology recognises that there may not be direct evidence for the impact of bias on GCSE or A level centre assessed grades, however there is a wide range of research supported by evidence that unconscious bias is systemic in higher education and more broadly in society.

There are a number of research articles that support this, some science and education specific, some on wider bias identification in society:

Asia Eaton, Jessica Saunders, Ryan K Jacobson and Keon West (2019) - Racial and gender biases in hiring of US Physics and Biology postdoctoral candidates
https://www.researchgate.net/publication/333579128_How_Gender_and_Race_Stereotypes_Impact_the_Advancement_of_Scholars_in_STEM_Professors'_Biased_Evaluations_of_Physics_and_Biology_Post-Doctoral_Candidates

Richard Murphy and Gil Wyness (2020) - on the impact of predicted grades on university admissions of disadvantaged groups
<https://econpapers.repec.org/paper/ucfceow/20-07.htm>

Gill Wyness (2017) - on the access gap for those from disadvantaged backgrounds in university admissions process, including predicted grades

<https://www.suttontrust.com/our-research/rules-of-the-game-university-admissions/>

Magnus Byrger (2019) - group differences in average University grades, after blinding to counter discrimination based on native and foreign names in Stockholm

<https://www.tandfonline.com/doi/abs/10.1080/0141192052000310038>

Sarah Hofer (2015) - exploring gender bias in physics grading in Switzerland, Austria and Germany

https://www.researchgate.net/publication/285358562_Studying_Gender_Bias_in_Physics_Grading_The_role_of_teaching_experience_and_country

Teach First (2019) - 15% of the poorest pupils fail to pass all three sciences

<https://www.teachfirst.org.uk/press-release/New-investigation-into-GCSE-subjects-reveals-the-stark-extent-that-disadvantaged-pupils-are-being-left-behind>

Claudia Goldin and Cecilia Rouse (2000) on the impact of blind auditions on female musicians <https://www.aeaweb.org/articles?id=10.1257/aer.90.4.715>

We must do everything we can to ensure that students are not advantaged or disadvantaged by the removal of the safety net provided by anonymised and blind marking, with the unusual move to subjective assessment this year which is precisely when unconscious biases, and indeed conscious biases, comes into play. In addition to protected characteristics, teachers may also be unconsciously biased due to many years of teaching individual students resulting in inflated grade assessments.

We would welcome your views on how any potential negative impacts on particular groups of students could be mitigated.

As in The Royal Society of Biology's response to earlier questions on the need for Heads of Centre declaration against Equalities Law and the Equality Impact Assessment, we would like to reiterate:

The proposals outlined in this consultation document do not appropriately identify the impact on particular groups of students, particularly gender, race, disability and socio-economic status. For the sciences bias affecting these groups, particularly gender, has an impact throughout formal education.

It is important an Equalities Impact Assessment is carried out at centre level for the GCSE cohort. Either by the centre, or by the exam boards as part of their statistical analysis.

Equalities Law does not include commonly used metrics in schools (e.g. Free School Meals and English as an Additional Language) and specifies sex rather than the commonly used gender in school demographics.

If an Equality Impact Assessment is deemed to be too burdensome for schools to carry out at GCSE, exam boards must use, either existing or by request, demographic data alongside centre assessment grades and student rank orders, so that a centre level analysis can be conducted by the exam boards.

Regulatory Impact Assessment

Are there additional activities associated with the delivery of the revised approach that we have not identified above? If yes, what are they?

The Royal Society of Biology notes that plans for an additional exam series in the Autumn have not been detailed in this document, with regard to proposals for timings of exams, process for entries, impact on centres, teachers, students and higher and further education institutions. The Royal Society of Biology feels that careful consideration should be taken as to whether an unprecedented autumn exam series should go ahead.

The unknown percentage of students that may appeal their grades is of great uncertainty and could increase costs dramatically.

A concise summary document distributed to students along with their award certificates in 2020 would be valuable to students, FE and HE institutions and future employers. While the aims of the exceptional arrangements are to award grades fairly and ensure the current cohort of students can progress appropriately, in a few months or years this detail will be forgotten while an employer or HEI admissions tutor may remember that there were exceptional arrangements in place.

Guidance provided to students at the time they receive their results would help them answer any questions they may face.

What additional costs do you expect you will incur through implementing this approach?

The Royal Society of Biology is not directly involved in delivering national examination processes. We are mindful that any costs saved at centres and exam boards are likely to be cancelled out by additional expenses due to an autumn exam series.

What costs will you save?

The Royal Society of Biology is not directly involved in delivering national examination processes. We are mindful that any costs saved at centres and exam boards are likely to be cancelled out by additional expenses due to an autumn exam series.

We would welcome your views on any suggestions for alternative approaches that could reduce burden.

The Royal Society of Biology recommends that exam boards carry out a centre-level equality impact assessment for GCSE cohorts, if it is deemed too burdensome for centres to do so. We do not suggest such an assessment is carried out at A level, due to statistical validity of such an assessment on small cohort sizes.

Demographic details

Which nation or country are you based in? England. Other: The RSB represents members and advises on policy in all four UK nations

How did you find out about this consultation? Other: direct communication with Ofqual subject lead

Is this the official response from your organisation or your own, personal response? This is the official response from my organisation

Which of these options best describes your organisation? Subject representative or interest group