

Pearson response to the Ofqual Consultation on GCSE Science, Conditions and Guidance

24 April 2015

Organisation details

Name

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Position

Vice President, Quality, Standards and Research

Organisation name (if applicable)

Pearson

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Would you like us to treat your response as confidential?*

If you answer yes, we will not include your details in any list of people or organisations that responded to the consultation.

() Yes (X) No

Is this a personal response or an official response on behalf of your organisation?*

() Personal response (Please answer the question 'If you ticked 'Personal views'...')

(X) Official response (Please answer the question 'Type of responding organisation')

If you ticked 'Personal views' which of the following are you?

() Student

() Parent or carer

() Teacher (but responding in a personal capacity)

() Other, including general public (Please state below)

If you ticked "Official response from an organisation/group", please respond accordingly:

Type of responding organisation*

- Awarding organisation
- Local authority
- School or college (please answer the question below)
- Academy chain
- Private training provider
- University or other higher education institution
- Employer
- Other representative or interest group (please answer the question below)

School or college type

- Comprehensive or non-selective academy
- State selective or selective academy
- Independent
- Special school
- Further education college
- Sixth form college
- Other (please state below)

Type of representative group or interest group

- Group of awarding organizations
- Union
- Employer or business representative group
- Subject association or learned society
- Equality organisation or group
- School, college or teacher representative group
- Other (please state below)

Nation*

- England
- Wales
- Northern Ireland
- Scotland
- Other EU country
- Non-EU country

How did you find out about this consultation?

- Our newsletter or another one of our communications
- Our website
- Internet search
- Other

May we contact you for further information?

- Yes No

Single Science

Question 1

Do you have any comments on our approach to securing awarding organisations' compliance with subject content for new biology, chemistry and physics GCSEs?

Yes No

If yes, please provide them here:

Question 2

Do you have any comments on our proposed requirements for interpreting the subject content for new biology, chemistry and physics GCSEs?

Yes No

If yes, please provide them here:

The conditions around recall and applying equations should be amended to a requirement to EITHER apply OR recall and apply. There should be no requirement for candidates to simply recall equations. Requiring them to either apply or recall and apply would in fact be sufficient, as recall and apply subsumes recall, and we have a requirement that all equations are recalled and applied during the lifetime of the qualification. In addition, we would question the need for candidates to simply recall an equation in isolation and then not be required to do anything scientific with this recall of information, such as apply it in a scientific context.

There is a lack of clarity on whether recall and apply questions relate to within an item, or whether question parts that sequentially ask candidates to recall and then apply would count towards the recall and apply requirement. Our preference is the latter.

There is the potential for predictability in the Physics assessments. With a 15% limit on recall questions, and the requirement to assess all 19 Physics equations at the level of recall and apply, we fear that after the first series centres will be able to predict the likelihood of individual equations being assessed. To help mitigate this problem, and to ensure comparable demand across the three sciences, the recall of the 19 Physics equations should not count towards the 15% recall maximum.

Question 3

Do you have any comments on our proposed Condition and requirements for tiering in new biology, chemistry and physics GCSEs?

(X) Yes () No

If yes, please provide them here:

Preclusion of mixed tier of entry will significantly disadvantage students who have different aptitude in each of the three sciences and who are studying Combined Science. For example, a student who is good at Physics, but less good at Biology may be forced into Foundation tier for all subjects at double award to ensure they can access the Biology, but this may limit their progression opportunities in Physics. In addition, a lack of flexibility over tier of entry may lead to perverse decisions around entry, where centres avoid Combined Science and put students in for two single science qualifications. For example students could take only Biology and Physics, and have no qualification containing Chemistry at all. Therefore, candidates should be permitted to enter for different tiers.

Question 4

Do you have any comments on our proposed Condition and requirements for assessments in new biology, chemistry and physics GCSEs?

(X) Yes () No

If yes, please provide them here:

It is critical in the assessment of practical activities that both knowledge and understanding and investigative skills are tested. This will ensure that in order for students to succeed in the assessments, they will be advantaged if they have engaged with a rich and varied range of practical work in the course of study. Therefore we would strongly support point (d) in the conditions.

Question 5

Do you have any comments on our proposed Condition covering practical work in new biology, chemistry and physics GCSEs?

Yes No

If yes, please provide them here:

For practical reasons, statement 4.2(a), which requires awarding organisations to review practical work in the event of the Secretary of State revising the required techniques, should be removed. Schools will need to resource up to deliver their practical activities and an unscheduled change to this outside of the usual life cycle of qualifications will put extra pressure on school budgets.

Question 6

Do you have any comments on what we propose must be covered by the 'practical science statement' to be made by schools in new biology, chemistry and physics GCSEs?

Yes No

If yes, please provide them here:

Question 7

Do you have any comments on our proposed approach to targeting assessment objectives in new biology, chemistry and physics GCSEs?

(X) Yes () No

If yes, please provide them here:

The dual proposal that weightings can vary by +/- 3% but that over a four-year period the exact weightings must be achieved is problematic in the following ways:

1. It inextricably links four series in a potentially problematic way, as we would not be able to consider each series in isolation. However, the proposed set up does encourage absolute comparability over time for each individual AO.
2. With a +/-3% variability allowed, there is potential that candidates in any one year group may experience variable examinations, to the tune of up to a 6% difference in the AO balance.

Variability between candidates in a year group using different AOs is a bigger issue than ensuring series within an individual AO are comparable over time. Our preference would be to reduce the variability allowed to 2%. However, this would make achieving a balance over four years too difficult, so the requirement for the balance over four years should be removed.

Question 8

Do you have any comments on the draft guidance on assessment objectives for new biology, chemistry and physics GCSEs?

(X) Yes () No

If yes, please provide them here:

For AO3, achieving a perfect balance of 33%/33%/33% coverage of strands will be difficult and lead to contrived assessments. Allowing a reasonable balance, to be defined in our assessment strategy, will allow the overall AO3 requirement to be achieved in a manageable way. There is no difference in demand between the strands so this will not affect the overall demand of the AO.

Question 9

Do you have any comments on our proposed approach to limiting the amount of recall rewarded by new biology, chemistry and physics GCSEs, including the proposed limit of 15 per cent of the marks?

() Yes (X) No

If yes, please provide them here:

Greater clarity is required as to the approach towards counting percentage of marks for recall, if tending towards the second approach outlined in 1.44 and 1.45. We would see the rationale for questions with recall and apply commands having some recall marks applied. However, if taken to the extreme of the interpretation, any question that asks candidates to simply explain a scientific idea would naturally have some recall of information at the heart of the question. Using this interpretation, every item in the paper would have an element of recall within it and the 15% maximum would be untenable. Therefore the guidance should state clearly that only questions that have a command word of recall or state within it could count towards the recall tally.

Combined Science

Question 10

Do you have any comments on our approach to securing awarding organisations' compliance with subject content for new combined science GCSEs?

() Yes (X) No

If yes, please provide them here:

Question 11

Do you have any comments on our proposed requirements for interpreting the subject content for new combined science GCSEs?

(X) Yes () No

If yes, please provide them here:

The conditions around recall and applying equations should be amended to a requirement to EITHER apply OR recall and apply. There should be no requirement for candidates to simply recall equations. Requiring them to either apply or recall and apply would in fact be sufficient, as recall and apply subsumes recall, and we have a requirement that all equations are recalled and applied during the lifetime of the qualification. In addition, we would question the need for candidates to simply recall an equation in isolation and then not be required to do anything scientific with this recall of information, such as apply it in a scientific context.

There is a lack of clarity on whether recall and apply questions relate to within an item, or whether question parts that sequentially ask candidates to recall and then apply would count towards the recall and apply requirement. Our preference is the latter.

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Question 12

Do you have any comments on our proposed Condition and requirements for tiering in new combined science GCSEs?

(X) Yes () No

If yes, please provide them here:

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Question 13

Do you have any comments on our proposed Condition and requirements for assessments in new combined science GCSEs?

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It is critical in the assessment of practical activities that both knowledge and understanding and investigative skills are tested. This will ensure that in order for students to succeed in the assessments, they will be advantaged if they have engaged with a rich and varied range of practical work in the course of study. Therefore we would strongly support point (d) in the conditions.

Question 14

Do you have any comments on our proposed Condition covering practical work in new combined science GCSEs?

Yes No

If yes, please provide them here:

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Question 15

Do you have any comments on what we propose must be covered by the 'practical science statement' to be made by schools in new combined science GCSEs?

Yes No

If yes, please provide them here:

Question 16

Do you have any comments on our proposed approach to targeting assessment objectives in new combined science GCSEs?

(X) Yes () No

If yes, please provide them here:

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Question 17

Do you have any comments on the draft guidance on assessment objectives for new combined science GCSEs?

(X) Yes () No

If yes, please provide them here:

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Question 18

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If yes, please provide them here:

Greater clarity is required as to the approach towards counting percentage of marks for recall, if tending towards the second approach outlined in 1.44 and 1.45. We would see the rationale for questions with recall and apply commands having some recall marks applied. However, if taken to the extreme of the interpretation, any question that asks candidates to simply explain a scientific idea would naturally have some recall of information at the heart of the question. Using this interpretation, every item in the paper would have an element of recall within it and the 15% maximum would be untenable. Therefore the guidance should state clearly that only questions that have a command word of recall or state within it could count towards the recall tally.

General questions

Question 19

We have not identified any ways in which our proposals for new single and combined science GCSEs would impact (positively or negatively) on persons who share a protected characteristic.³³ Are there any potential impacts we have not identified?

Yes

No

If yes, please provide them here:

Question 20

Are there any additional steps we could take to mitigate any negative impact resulting from these proposals on persons who share a protected characteristic?

Yes

No

If yes, please comment on the additional steps we could take to mitigate negative impacts:

Question 21

Have you any other comments on the impacts of the proposals on students who share a protected characteristic?

Yes

No

If yes, please provide them here:

Question 22

Do you have any comments on the impacts of our proposals on schools and/or awarding organisations?

Yes

No

If yes, please provide them here: