

GCSE astronomy consultation on conditions and guidance

How to respond to this consultation

The closing date for responses is **20 January 2016**.

Please respond to this consultation in one of three ways:

- Complete the online response at www.surveygizmo.com/s3/2495917/GCSE-reform-regulations-for-astronomy.
- Complete these consultation questions and email your response to consultations@ofqual.gov.uk. Please include the consultation title (GCSE Astronomy Consultation 2015) in the subject line of the email and make clear who you are and in what capacity you are responding.
- Post your response to: GCSE Astronomy Consultation 2015, Ofqual, Spring Place, Herald Avenue, Coventry, CV5 6UB, making clear who you are and in what capacity you are responding.

Evaluating the responses

To evaluate responses properly, we need to know who is responding to the consultation and in what capacity. We will therefore only consider your response if you complete the information page.

Any personal data (such as your name, address and any other identifying information) will be processed in accordance with the Data Protection Act 1998 and our standard terms and conditions.

We will publish our evaluation of responses. Please note that we may publish all or part of your response unless you tell us (in your answer to the confidentiality question) that you want us to treat your response as confidential. If you tell us you wish your response to be treated as confidential, we will not include your details in any published list of respondents, although we may quote from your response anonymously.

Please respond by **20 January 2016**.

Responding to the consultation

Your details

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Please answer all questions marked with a star*

Name*

Lesley Davies

Position*

Senior Vice President, Qualifications, Standards and Efficacy

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 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 response’...”)

Official response (please answer the question “If you ticked ‘Official response’...”)

***If you ticked “Personal response”, 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 organisations
- 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

Questions

Question 1: To what extent do you agree or disagree that we should introduce a Condition which requires exam boards to comply with the relevant subject content and assessment objectives?

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

Question 2: To what extent do you agree or disagree that we should introduce guidance which clarifies how exam boards should interpret our assessment objectives?

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

Question 3: To what extent do you agree or disagree that we should introduce rules for exam assessment to ensure exam boards take a consistent approach to assessing mathematical skills and observational skills in GCSE astronomy?

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

Question 4: To what extent do you agree or disagree with our proposed approach to assessing mathematical skills in exams (including the 20 per cent minimum weighting) for GCSE astronomy?

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

Question 5: To what extent do you agree or disagree with our proposed approach to assessing observational skills in exams (including the proposed 15 per cent minimum weighting) for GCSE astronomy?

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

Pearson has previously shared evidence from research gathered from stakeholders and HE representatives, for example Andrew Newsam (Liverpool John Moores Schools Observatory) with Ofqual, to support the assessment of observational skills in astronomy having a larger weighting than the assessment of practical skills in science subjects and point towards a minimum weighting of 20%.

The nature of observational skills is at the heart of astronomy, however in science the practical element is key but not as prominent as observation is in astronomy.

In Biology, Chemistry and Physics, at GCSE, students undertake practical work where the emphasis is on techniques, data collection and analysis. At this level, laboratory work concentrates on routine activities that demonstrate known phenomena.

In Astronomy, students undertake activities that are more open-ended. The nature of the changing weather conditions and relative positions of celestial bodies means that a student cannot “follow a set method” in the same way that they can in a laboratory science. They must learn observation techniques, but this must be applied in a way that is more iterative, with students adjusting instrumentation and methods in order to collect data. These skills cannot be tested in a valid way with simple questions (“Describe how to focus a telescope”) as these questions are both predictable and trivial. Students also have to show analysis skills as in the other sciences.

Therefore we do not believe that the same rules for GCSEs in Science should be applied to GCSE Astronomy, for the reasons given above. We recommend that 20% weighting should be allocated to observation skills.

In addition, the consultation document is unclear what the weighting of the observational skills should be. On page 9 point 2.19, it states ‘a 15% weighting’, question 5 states ‘15 per cent minimum weighting’ and the information on page 16 Assessment of Learners in relation to observations skills b) states ‘no less than 15 per cent’. This is confusing and a consistent wording should be applied.

Question 6: To what extent do you agree or disagree with our proposed approach to assessing working scientifically in exams for GCSE astronomy?

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

Question 7: To what extent do you agree or disagree that we should require exam boards to collect statements from schools which confirm that students have been given reasonable opportunities to carry out observation?

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

Question 8: Do you have any comments on our proposed Conditions and requirements for GCSE astronomy?

- Yes No

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On page 14 point 3.4 refers to the observational activities as 'assessments'. This is confusing, as they are not assessed independently. We recommend amending this to say 'observational activities' to avoid confusion.

Question 9: Do you have any comments on our proposed guidance for GCSE astronomy?

Yes No

On page 21 (AO1) footnote 13 statements states 'Marks which 'reward demonstrating knowledge in isolation' means any mark awarded solely for recalling facts or other knowledge that is part of the specification. It does not include marks awarded for selecting appropriate knowledge (for example, to evidence an argument), or for applying knowledge to a particular context.

Since this is about knowledge in isolation which is part of AO1, 'or for applying knowledge to a particular context' should be removed from the last sentence as this is not appropriate and could lead to confusion as application is AO2.

On page 25 the interpretations and definitions section for AO3 refers to a range of sources which includes environmental. This should be removed from the list as this no longer appears in the DfE subject content.

Question 10: We have not identified any ways in which the proposals for GCSE astronomy would impact (positively or negatively) on persons who share a protected characteristic.¹ Are there any potential impacts we have not identified?

Yes No

¹ 'Protected characteristic' is defined in the Equality Act 2010. Here, it means disability, racial group, age, religion or belief, pregnancy or maternity, sex, sexual orientation and gender reassignment.

Question 11: 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

Question 12: Do you have any other comments on the impacts of the proposals on students who share a protected characteristic?

Yes No

Accessibility of our consultations

We are looking at how we provide accessible versions of our consultations and would appreciate it if you could spare a few moments to answer the following questions. Your answers to these questions will not be considered as part of the consultation and will not be released to any third parties.

We want to write clearly, directly and put the reader first. Overall, do you think we have got this right in this consultation?

Yes No

Do you have any comments or suggestions about the style of writing?

Yes No

Do you have any special requirements to enable you to read our consultations? (for example, screen reader, large text, and so on)

Yes No

Which of the following do you currently use to access our consultation documents? (select all that apply)

- Screen reader / text-to-speech software
- Braille reader
- Screen magnifier
- Speech-to-text software
- Motor assistance (blow-suck tube, mouth stick, and so on)
- Other

Which of the following document formats would meet your needs for accessing our consultations? (select all that apply)

- A standard PDF
- Accessible web pages
- Large-type PDF (16 point text)
- Large-type Word document (16 point text)
- eBook (Kindle, iBooks, or similar format)
- Braille document
- Spoken document
- Other

How many of our consultations have you read in the last 12 months?

More than 5