

Improving Assessment in National Courses Research: National 5 Biology

Published: June 2026

Proposal

The following proposal was shared with respondents who said they had studied or taught National 5 Biology:

- We are proposing making the exam for National 5 Biology shorter, reducing the time from 2 hours 30 minutes to 2 hours.
- We would shorten Section 1 by removing five multiple choice questions. We would shorten Section 2 by removing 15 marks worth of questions, which would include removing the scientific literacy question.
- We are suggesting these changes to improve the exam experience for learners and for schools and colleges, while maintaining appropriate sampling of subject content.
- We are not proposing any changes to the assignment at this stage. We will consider how practical work is assessed as part of the longer-term reform of National Qualifications.

The table below shows a comparison between the current course assessment and our proposed changes. The weightings of the exam and assignment (the percentage they contribute to a final grade) would stay the same.

The proposed changes for National 5 Biology are:

Component	Current marks	Current duration	Current weighting
Section 1 + 2	25 + 75	2 hours 30 minutes	80%
Assignment	20		20%

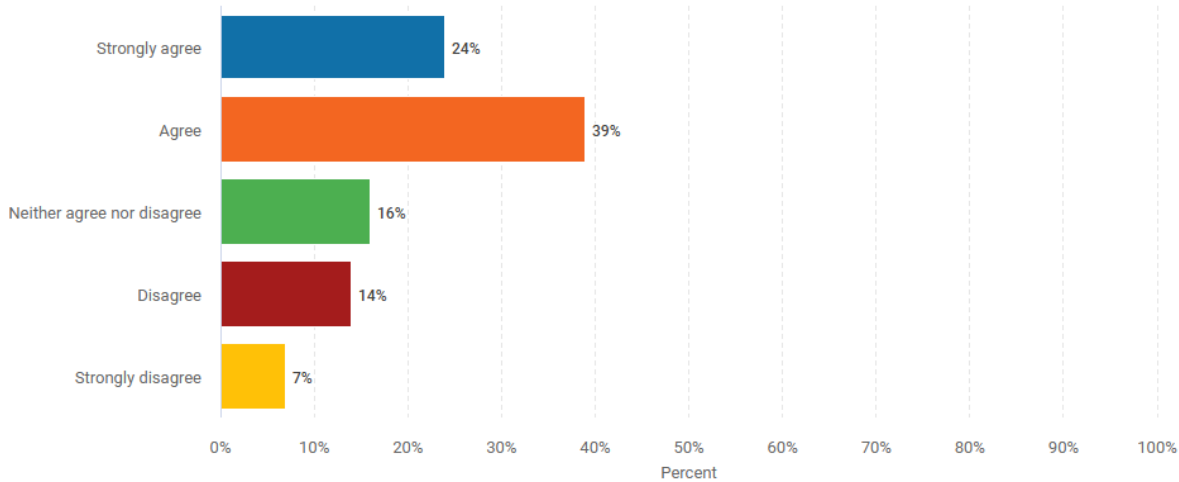
Component	Proposed marks	Proposed duration	Proposed weighting
Section 1 + 2	20 + 60	2 hours	80%
Assignment	20		20%

Findings: learners

We received responses from 607 learners who said they had studied National 5 Biology. As shown in Figure 1, the majority of learner respondents (63%) agreed or strongly agreed with this proposal, while 21% disagreed or strongly disagreed.

Figure 1: To what extent do you agree or disagree with the proposed changes for National 5 Biology? Learner views

To what extent do you agree or disagree with the proposed changes for National 5 Biology?

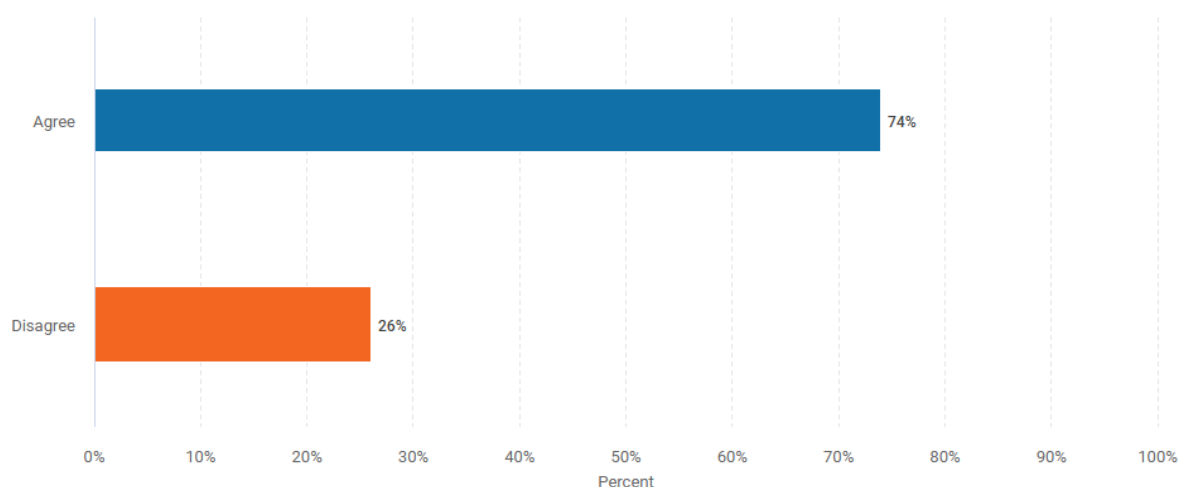


Base: 607 learners who said they had studied National 5 Biology

Respondents were also asked to what extent they agreed with the decision to begin the proposed change in 2026–27, should the change be made. As shown in Figure 2, the majority of learners (74%) agreed that the change should be made from the 2026–27 session, while 26% disagreed.

Figure 2: In the event that the proposed changes are made for National 5 Biology, do you agree or disagree that this should happen from session 2026–27? Learner views

In the event that the proposed changes are made for National 5 Biology, do you agree or disagree that this should happen from session 2026/27?



Base: 598 learners who said they had studied National 5 biology

Qualitative analysis

Learner respondents were asked if they had any further comments that they would like to share about the proposed changes to National 5 Biology. Seventy-seven respondents left a comment. While just almost three quarters (74%) of respondents agreed or strongly agreed with the proposal, over half of the comments were from those who expressed that they disagreed with the proposed changes.

Benefits of implementing this change

Some comments from learners focused on the benefits of the proposed changes. The most common related to learners being in favour of shortening the exam as they felt the current exam was too long. Some learner respondents felt that the current exam length was too long to concentrate for, whilst others felt that it was longer than necessary, and they finished the exam with time to spare.

‘I believe this would be a good change as I thought the Nat 5 biology exam was very long and I had much more time than I needed.’

‘Make the exams shorter 2hrs 30 minutes is unnecessary’

‘I think that if this is not put in place there should be a break between multiple choice and extended answer as 2.5 hours is too long to sustain focus consistently.’

A couple of learner respondents also expressed agreement with the proposal that the scientific literacy questions be removed. One learner perceived these questions to be difficult to predict and felt that they 'didn't directly reflect the students' understanding of the course'.

Challenges with implementing these changes

While a strong majority (63%) of learner respondents agreed that the proposed changes to National 5 Biology be made, most comments from learner respondents expressed concerns with the changes being proposed to National 5 Biology. The key challenge perceived by learners were that the course would not be sufficiently sampled by reducing the number of marks in the question paper.

Challenges with reducing the number of marks

It was common for learner respondents to say that reducing the number of marks would mean that the course content would not be sufficiently sampled. Some learner respondents thought that the current number of marks was already not enough to account for the large amount of course content, so reducing it further could impact the validity of the exam. There was also a concern that learners would not be able to demonstrate the volume of knowledge that they had gained if the number of marks were to be reduced.

'National 5 science exams are too long, but the number of marks should not be lowered as it is not sufficient to test the entire course.'

'I don't think this is a good idea as students will still have to study the same amount but have less questions to prove their knowledge.'

Some also said that reducing the number of marks would mean that there was a chance of their favoured or strongest topics not being in the exam, therefore disadvantaging them.

'I think it is a good thing having more marks because you cover so much content that if you don't understand a certain part of a topic you don't lose as many marks. I think that because it is all on the same paper it maybe should be knocked down a bit'

'Less questions means less of the course being asked about in the exam. Potentially resulting in people that are strong in certain key areas being unable to show that they are strong and getting a lowered mark compared to what they deserve.'

Challenges with removing the scientific literacy question

Another key theme that emerged was for learner respondents to say that the scientific literacy question was useful, and to criticise the suggestion that it be removed. There was a perception that removing the scientific literacy question would make the exam easier. These learners

enjoyed the challenge of the scientific literacy question, and thought that exams should push their capabilities.

'I don't particularly see why this needs changed? It will make the exam easier as scientific literacy is the hardest but the point of exams is that they're not meant to be easy'

'I personally disagree with removing the scientific literacy question. I often found more practical, problem solving-type questions like this the hardest since they require more thought instead of simply spouting knowledge. Surely that sort of question is important to test students on something they will need to understand if they wish to continue studying sciences?'

'The scientific literacy question is vital for developing skills related to analysing case studies.'

Learner respondents also felt that scientific literacy was a useful skill, and was useful to learn in their development as learners and scientists.

Less common themes related to challenges with the proposals

Other ideas expressed by a minority of learner respondents about why they disagreed with the proposed changes to National 5 Biology were:

The exam being too long anyway

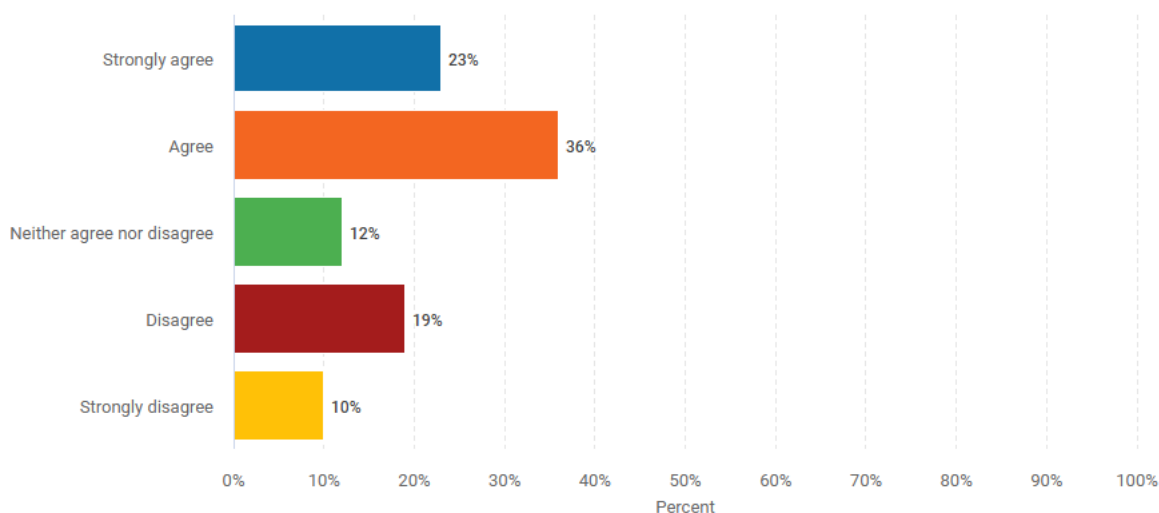
The gap between National 5 and Higher becoming larger

Findings: educators

We received responses from 566 educators who stated they had taught National 5 biology. As shown in Figure 3, a majority (58%) of educator respondents agreed or strongly agreed with the proposed changes for National 5 biology, while 29% disagreed or strongly disagreed.

Figure 3: To what extent do you agree or disagree with the proposed changes for National 5 Biology? Educator views

To what extent do you agree or disagree with the proposed changes for National 5 Biology?

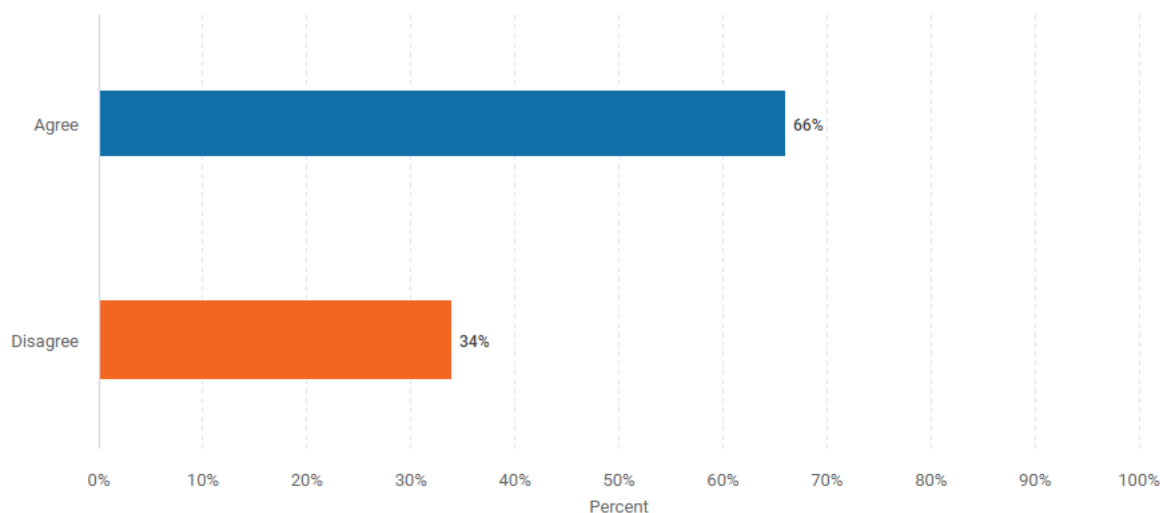


Base: 566 educators who stated that they taught National 5 Biology

As shown in Figure 4, 66% of educator respondents agreed and 34% disagreed, in the event that the proposed changes went ahead, that they should be implemented from the 2026–27 session.

Figure 4: In the event that the proposed changes are made for National 5 Biology, do you agree or disagree that this should happen from session 2026–27? Educator views

In the event that the proposed changes are made for National 5 Biology, do you agree or disagree that this should happen from session 2026/27?



Base: 563 educators who stated that they taught National 5 Biology

Qualitative analysis

Educator respondents were asked if they had any further questions they would like to share with us, and 285 respondents left a comment. Although 58% of educator respondents agreed or strongly agreed with the proposals, the vast majority of comments were from respondents who disagreed with the proposed changes, explaining their reasoning.

The most common theme that emerged from the open-text responses from educator respondents related to disagreeing with removing the scientific literacy question. Some educators felt that the exam was too long, but opinions varied about how assessment of skills should be structured throughout the course. A strong theme that emerged from educators was a desire to reform or remove the assignment.

Benefits of implementing this change

A number of comments from educator respondents related to the benefits of implementing the proposed changes. The key themes that emerged from the data were that increasing the project weighting would represent better the volume of work that went into this part of the assessment, and that the introduction of extended response questions would better prepare learners for university exams.

Benefits of changes to the question paper

The key benefit that emerged from educator respondents was related to shortening the time of the question paper. Many respondents said that the current exam length was too long, and that learners rarely stayed for the full time available. Whilst many educators praised shortening the question paper, their comments were often accompanied with other concerns about the course or requesting further changes to the course structure.

‘I agree with shortening the length of time for the exam — the time is far too long, and no pupil stays for the full 2 hours 30 mins. [...]’

‘For National 5 Biology, I feel that majority of students have too much time and are able to get through the paper, sitting for long periods of time waiting for the end of the exam whilst checking over answers. Gaps in exam responses are usually more due to students not having the knowledge or skills to complete those questions.’

There were also a few educators who said that reducing the time of the exam would also help learners with alternative assessment arrangements, as long exams often compound with the extra time these learners may receive.

Challenges with implementing this change

The vast majority of comments from educator respondents expressed concerns with the changes being proposed. The key concern was that the scientific literacy question may be removed. Further themes that emerged from concerns were the perception that the course content would not be sufficiently sampled by the reduction of marks, and that without course content changing the proposed changes would make no difference.

Challenges with removing the scientific literacy question

The main challenge that educator respondents spoke about in the open-text comments related the proposal to remove the scientific literacy question. Many educator respondents explained that scientific literacy is a key skill in developing as a learner and a scientist, and that removing it would cause learners to lose out on developing this skill. For these respondents, this could damage learners’ ability to progress to Higher Education or to a career in science.

‘I feel removing the scientific literacy question removes the skill to read scientific text for understanding. Whilst I appreciate there are learners for whom this may be more challenging, supports should be put in place in schools to support through this, eg electronic readers, prompts etc. Scientific literacy is a key skill that should be encouraged; if moving through the sciences to university (where reading research is crucial), we should be encouraging this from an early time.’

'[...] I don't agree with removing the scientific literacy question [question]. I feel overall we need a greater focus on literacy across all subject areas.'

'Scientific literacy is one of the most important questions in our paper. It enables young adults to engage with scientific literature after school including journal and newspaper articles which allows them to be independent thinkers, responsible citizens and effective contributors. A world where individuals cannot read or understand scientific literacy is scary.'

There were also many educators who felt that removing the scientific literacy question was a way to make the qualification easier, or to cope with the lowering levels of literacy they perceived among learners. Several educators also felt that removing this element of the exam would make the exam more of a memory test, and they valued the application of skill required for the scientific literacy question.

'Removing scientific literacy will further degrade literacy of students, of which it is already poor.'

'Removing the scientific literacy section is a huge mistake. Both general literacy levels as well as scientific literacy levels are declining across Scotland (and the UK). Doing away with subject content that improves literacy (even under the guise of scientific literacy), is really important. There should be much more focus on oral fluency when talking about scientific matters and discussing written scientific content (at the appropriate level). It is important that pupils develop suitable literacy levels in a science subject, which in turn lets them evaluate and analyse data in a way that helps them understand new/ unknown scenarios and as such develop their scientific literacy. This is an effort to dumb down an exam to reduce the issue with falling (scientific) literacy levels, rather than targeting the root causes of the problem.'

Challenges related to reducing the length of the question paper

Another challenge perceived by educator respondents who left a comment was related to reducing the length of the question paper. A number of educators said that shortening the time of the question paper by 30 minutes would mean that the full content of the course was not sampled appropriately in the exam.

Some educators felt that this could result in disadvantaging some learners as the proportion of each mark would be more highly weighted, while others thought that learners would not be able to demonstrate their full abilities by reducing the number of marks available whilst also having to not assess content from across all of the course.

'Fewer marks means each one mark is worth more of a percentage. Shortening the exam means fewer topics are assessed. If a topic comes up in the paper that a pupil

struggles with, if the paper has overall less marks then that topic will have more of an overall bearing. Pupils will still need to learn the whole course so reducing the length of the exam doesn't have any impact on the learning burden.'

'Pupils pick up key marks in these areas, removing them would potentially hinder their overall grade.'

'The current length of the exam allows pupils to work towards and demonstrate a relatively high level of academic competence and perseverance. Reducing the length of the exam will do pupils the disservice of reducing the meaningfulness and rigour of the qualification, depriving them of opportunities to demonstrate their ability.'

Some educator respondents also had concerns that reducing the length of the question paper would reduce the strength and validity of the assessment.

'A shorter exam will either result in less depth in the assessment or a less representative sample of the taught materials appearing in the exam that might affect how fairly the pupil grades are achieved.'

'For rigour of the award, all content should be assessed which is outlined in the course specification. If we are talking less questions; what is being cut from the course specification to allow less questions to be asked?.'

Challenges related to implementing the changes from 2026–27

Although there was agreement (66%) from educator respondents that the proposed changes should be implemented for the 2026–27 session, some respondents felt that they would need more time to adapt and prepare for the changes. A few respondents explained that more time would be needed to write new prelims. Others indicated that materials such as example exam papers would need to be updated to reflect the changes, which would require more time.

'We are currently completing our National 5 course over 2 years. Therefore the pupils that will be sitting the exam in 2026–27, already are aware of the format of the exam. Therefore it seems unfair at this stage to now change it.'

'More warning would be good — we would need to at least change our prelim papers and potentially some of our course resources. With workload as it is, 26–27 puts unnecessary strain on us to get this done in time.'

Other challenges

A small minority of respondents said that the proposed changes would make progression from National 5 to Higher more difficult. This was due to the reduction in course content being

assessed in the exam, creating a larger jump to what would be expected at Higher. There was a concern that learners who had passed National 5 would then be set up to fail at Higher.

Alternative suggestions

Some educator and learner respondents used the free text box to give varying suggestions for alternative changes that they felt should be made to National 5 Biology. We haven't included these comments in the analysis, as they did not directly answer the research questions and were out of scope of this research. We passed the comments on to our Qualifications Development teams to make them aware of the themes that emerged on this topic. We'll consider alternative changes to National Courses as part of wider qualifications reform in the future, and learners and educators will have opportunities to share their views and input more directly to this work.