



Common questions about National 3 to Advanced Higher Biology and Higher Human Biology

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General questions

What are the implications of the Deputy First Minister's announcement in 2016 regarding changes to National Courses?

In September 2016 the Deputy First Minister (DFM) [announced that units and unit assessments would be removed from National 5, Higher and Advanced Higher courses](#), and will no longer be required to achieve an overall course award. Outcome 1 and outcome 2 will therefore be removed from National 5, Higher and Advanced Higher Biology and Higher Human Biology courses, and the course assessment arrangements will be revised.

Units and unit assessments will be removed from National Courses as follows:

- ◆ National 5 from 2017–18
- ◆ Higher from 2018–19
- ◆ Advanced Higher from 2019–20

All existing unit assessment support packs will remain available for teachers and lecturers to use as a resource, and the units that were part of the courses will still be available as free-standing units.

As a result of the DFM's announcement, we are in the process of planning the actions that will be required during the current academic session. This includes work to revise the National 5 Biology course assessment arrangements for session 2017–18.

The revised course assessment for National 5 Biology for session 2017–18 will be as follows:

Question paper

The question paper will be strengthened to allow increased sampling of knowledge and understanding and skills, due to the removal of the units (outcome 2). The question paper will have a total of 100 marks. The examination will be extended to ensure breadth of course coverage.

Coursework

Coursework will have a focus on data from practical work undertaken by the candidate, due to the removal of the units (outcome 1). There will therefore be a requirement for a mandatory practical experiment/activity in the assignment.

A new web page has been created to keep centres informed of the latest updates regarding changes to the assessment of National Courses.

Visit www.sqa.org.uk/ngchanges to find updates on what these changes are, as well as when they will happen. Information will be updated as and when it becomes available. Subject-specific information will still be shared via the subject page.

Will there be any changes to the course content?

Yes. There will be a review of the mandatory course content for National 5, Higher and Advanced Higher Biology and Higher Human Biology in order to address key issues such as content that is either lacking in detail and/or potentially excessive.

What exemplification material has been produced for National Qualifications?

Presentations and materials used to deliver Understanding Standards events for both internal and external assessment in National Qualifications have been published.

Internal assessment — National 3 to Advanced Higher

Training materials used for workshops and presentations from the nominee events for National 3 to Advanced Higher have been published on the [Understanding Standards Events Materials](#) page on SQA's website.

These materials may be useful for anyone delivering National Qualifications to help develop their understanding of the standards required.

Understanding Standards packs have been published on [SQA's secure website](#) for Biology National 4 to Advanced Higher, and Higher Human Biology. These packs are intended to provide teachers, lecturers and assessors with a clear understanding of why specific examples of candidate evidence have or have not met the national standard. Contact your SQA co-ordinator for access to SQA's secure website.

Course assessment — National 5, Higher and Advanced Higher

Some candidate material and commentaries for the National 5, Higher and Advanced Higher Biology, and the Higher Human Biology Question Paper and Assignment have been published on SQA's Understanding Standards website: www.understandingstandards.org.uk

We have recently published new exemplars and associated commentaries for the National 5, Higher Biology and Higher Human Biology Assignment. In addition, we have also published updated commentaries to reflect changes implemented during Diet 2016.

The material provides teachers and lecturers with an opportunity to mark exemplar candidate responses and compare the marks they give with those given by the marking team. A commentary from a senior marker is supplied with each example.

Presentations and workshop materials from the National 5, Higher and Advanced Higher Biology and Higher Human Biology course events have been published on the [Understanding Standards Events Materials](#) page on SQA's website. Anyone delivering National Qualifications may find these materials helpful in developing their understanding of the standards required.

Will SQA continue to produce exemplification material for National Qualifications?

SQA will continue to produce exemplification material for National Qualifications as appropriate and when possible.

Units and assessment standards

Can Recognising Positive Achievement or 'fallback' still be used?

Recognising Positive Achievement (RPA) currently supports candidates who have been unsuccessful at National 5 by enabling them to achieve National 4 retrospectively.

This arrangement will remain for session 2016–17. However, please note that it will no longer operate from session 2017–18 onwards as the removal of units from National 5 courses means that the unitised model — on which RPA is based — will no longer exist.

Are unit passes transferable between levels?

As the National 3, 4 and 5 Biology units are in a hierarchy, for example if a candidate passes the **complete** unit(s) at National 5, there would be no requirement for them to be presented for the same unit(s) at National 4. The candidate could therefore achieve a National 4 course award with a combination of units at National 5 and National 4 plus the Biology Added Value Unit, provided that they were entered for the National 4 course and resulted as appropriate. The candidate's certificate would show the unit(s) achieved at National 5 and/or National 4 and the course award at National 4.

As units and unit assessments are to be removed as part of the revisions to the National 5 courses for session 2017–18, unit passes will no longer be transferable between National 5 and National 4 Biology. Unit passes will still be transferrable between National 4 and National 3 Biology however.

The Higher and Advanced Higher units are not in a hierarchy.

Are assessment standards transferable between levels?

Candidates do not require to be assessed on assessment standards at the lower level if they have achieved one or more of the assessment standards at the higher level; however candidates would still require to be assessed for assessment standard 2.1 at the lower level, as the key areas are different.

Outcome 1 — National 3 to Advanced Higher

What changes have been made this session to outcome 1?

Candidates are no longer required to show full mastery of the assessment standards to achieve outcome 1. Instead the following must be met to achieve a pass:

- ◆ National 3: 4 out of the 5 assessment standards
- ◆ National 4: 5 out of the 6 assessment standards
- ◆ National 5: 5 out of the 6 assessment standards
- ◆ Higher: 5 out of the 6 assessment standards
- ◆ Advanced Higher: 5 out of the 6 assessment standards (*Biology: Cells and Proteins; Biology: Organisms and Evolution Units*)

There is still the requirement for candidates to be given the opportunity to meet all assessment standards. The above thresholds have been put in place to reduce the volume of re-assessment where that is required.

Please refer to the understanding the next steps for session 2016–17 guidance notes for further information.

Can we assess assessment standards 1.1–1.6 over a number of experiments/practical investigations rather than having a one-off set investigation?

Yes. Evidence for outcome 1 may be gathered from a series of experiments/practical investigations from individual units or across the course. The assessment standards can be achieved via a number of pieces of evidence covering work done on different occasions.

At National 4, there are five separate evidence requirements for assessment standard 1.1:

- ◆ an aim
- ◆ a variable to be kept constant
- ◆ measurements/observations to be made
- ◆ the resources
- ◆ the method, including safety considerations

In order to achieve assessment standard 1.1, all five of these evidence requirements should be described in one experimental/investigation plan.

At National 5 there are six separate evidence requirements for assessment standard 1.1:

- ◆ an aim
- ◆ a dependent and an independent variable
- ◆ key variables to be kept constant
- ◆ measurements/observations to be made
- ◆ the resources
- ◆ the method, including safety considerations

In order to achieve assessment standard 1.1, all six of these evidence requirements should be described in one experimental/investigation plan.

At Higher and Advanced Higher, (*Biology: Cells and Proteins*, and *Biology: Organism and Evolution* Units) there are seven separate evidence requirements for assessment standard 1.1:

- ◆ a clear statement of the aim
- ◆ a hypothesis
- ◆ a dependent and an independent variable
- ◆ variables to be kept constant
- ◆ measurements/observations to be made
- ◆ the equipment/materials
- ◆ a clear and detailed description of how the experiment/practical investigation should be carried out, including safety considerations

In order to achieve assessment standard 1.1, all seven of these evidence requirements should be described in one experimental/investigation plan.

Can candidates achieve assessment standard 1.1 by following a protocol provided by their assessor?

The [Key Messages](#), published after each round of verification, explain that centres are expected to ensure that contexts that allow active planning by all candidates are chosen for investigations as this is clearly the spirit of what is intended by assessment standard 1.1, 'planning an experiment/practical investigation'.

These messages remain the same regardless of level, except at National 3 where assessment standard 1.1 is 'following given procedures safely'.

If a protocol for a method is used as a starting point, for example to demonstrate an unfamiliar method, candidates could go on to produce different aims and alter variables while using the same method and similar materials. This would allow them to be actively involved in the planning of the experiment/practical investigation and meet this assessment standard.

Where a report suggests that all candidates from a class have been provided with both the protocol and materials to carry out an experiment/practical

investigation and there is no evidence to suggest that they have individually been involved in the planning of the investigation then they cannot meet assessment standard 1.1.

In a situation where all candidates carry out the same experiment/practical investigation and pool the results, the evidence generated could be used to meet assessment standards 1.2–1.6. An additional investigation, where each candidate is involved in the planning, would be required to meet assessment standard 1.1. It may be that the investigation they plan is simply for the purpose of generating evidence for this assessment standard and is not actually carried out.

Is it acceptable for a candidate to express the dependent variable as an indirect method of measurement only?

This depends upon the level. At National 5 this is acceptable but not at Higher or Advanced Higher. If a candidate identifies an indirect measure they must link this specifically to the dependent variable at some stage of the report to be credited with identifying the dependent variable at Higher or Advanced Higher level. At Higher and Advanced Higher it is important that the candidate shows an understanding of the overall output of the experiment, eg a candidate could be measuring enzyme activity (the dependent variable) by measuring the time taken for paper discs soaked in potato extract to rise to the top of a test tube, while altering concentration of hydrogen peroxide (the independent variable). If they state that the dependent variable is 'the time taken for the paper discs to float to the top of the hydrogen peroxide' and make it clear in their hypothesis that they understand that, in measuring the time taken for discs to rise, they are actually measuring enzyme activity then they should be credited with identifying the dependent variable. They have correctly identified an indirect measure (eg time for discs to rise) and linked this specifically to the dependent variable (eg. enzyme activity) in another stage of their report.

What level of guidance can candidates get before and during the write-ups of outcome 1?

Assessors can clarify with candidates how to produce evidence for their write-up. They can advise candidates how to approach an activity or assessment and guide them in producing their response. Assessors may also prompt candidates, where appropriate, to clarify that they have met the requirements of the assessment; however they should not direct them to any specific response. For example, assessors should not provide specific advice on how to improve responses or provide model answers. Candidates, or groups of candidates, are expected to work with minimal teacher support other than in selecting and gathering of evidence.

Are candidates allowed to re-draft their outcome 1 report?

Candidates may be given the opportunity to re-draft their original outcome 1 report or to carry out a new experiment/practical investigation. Guidance on re-assessment arrangements is provided in the unit assessment support packs.

Can you confirm that replicates are not a requirement in the write-up?

Replicates are not a requirement at National 3 and National 4 but they are good practice and where possible should be encouraged. At all other levels they should be used where appropriate.

Can you confirm that in assessment standards 1.1–1.6 we need to write how variables are controlled?

Yes. Review the *Course and Unit Support Notes* as they contain exemplification of standards.

Is it acceptable to give candidates a rough method, which they plan around?

Yes, this is appropriate support to give them; however at National 3, candidates follow given procedures.

Is outcome 1 evidence transferable between units?

At National 3 to Higher, evidence of outcome 1 in a unit is transferable between the other units at the same level.

At Advanced Higher, the achievement of outcome 1 in either of the units, *Biology: Cells and Proteins* and the *Biology: Organisms and Evolution* **cannot** be used as evidence of the achievement of outcome 1 in the *Investigative Biology* Unit of the course. However, the achievement of outcome 1 *Investigative Biology* Unit can be used as evidence of the achievement of outcome 1 in the other two units of the course. There is no requirement to match assessment standards.

Outcome 1 — Advanced Higher: *Investigative Biology* Unit

What changes have been made this session to outcome 1?

Candidates are no longer required to show full mastery of the assessment standards to achieve outcome 1. Instead, 4 out of the 5 assessment standards for outcome 1 must be met to achieve a pass.

There is still the requirement for candidates to be given the opportunity to meet all assessment standards. The above threshold has been put in place to reduce the volume of re-assessment where that is required.

Can candidates choose any topic for their investigation?

Candidates can choose any topic, provided it is of interest and relevance to them, and enables them to achieve Outcome 1 of the unit. The topic can involve biology that is either covered in the Advanced Higher Biology course or outwith their direct learning experience. The topic needs to allow any practical work to be carried out safely.

Can candidates undertake a group investigation?

No. Group work and joint investigations are **not** permitted.

Do candidates have to record evidence of outcome 1 in a day book?

Candidates are required to keep a clear and accurate record of their work for outcome 1. However, there is no requirement for this evidence to be in the form of a day book; although this would be an acceptable format.

Can evidence of outcome 1 in the *Biology: Cells and Proteins* or the *Biology: Organisms and Evolution* units be used as evidence of outcome 1 in the *Investigative Biology* unit?

No. The achievement of outcome 1 in the *Biology: Cells and Proteins* or the *Biology: Organisms and Evolution* units cannot be used as evidence of the achievement of outcome 1 in the *Investigative Biology* unit of the Advanced Higher Biology course. However, the achievement of outcome 1 in the *Investigative Biology* unit of the Advanced Higher Biology course can be used as evidence of the achievement of outcome 1 in the *Biology: Cells and Proteins* and the *Biology: Organisms and Evolution* units of this course. There is no requirement to match assessment standards.

Outcome 2 — National 3, 4, 5, Higher and Advanced Higher (*Biology: Cells and Proteins*; *Biology: Organisms and Evolution* units)

For National 3 and National 4, outcome 2 has the following assessment standards:

- 2.1 Making accurate statements
- 2.4 Solving problems

Assessment standards 2.2 and 2.3 have been **removed**. Candidates are therefore no longer required to produce a short report(s) covering these assessment standards.

For all units at National 5, Higher, and Advanced Higher, *Biology: Cells and Proteins*, and *Biology: Organisms and Evolution* units, outcome 2 has the following assessment standards:

- 2.1 Making accurate statements
- 2.2 Solving problems

Have new unit assessments been produced for outcome 2?

Yes. Revised unit assessments for outcome 2 have been produced to create a single instrument of assessment for knowledge and understanding (KU) and problem solving (PS). The following documents contain a single assessment for each unit:

National 5 Biology

- ◆ Biology National 5: Cell Biology (outcome 2, assessment activity 2 – test)
- ◆ Biology National 5: Multicellular Organisms (outcome 2, assessment activity 2 – test)
- ◆ Biology National 5: Life on Earth (outcome 2, assessment activity 2 – test)

Higher Biology

- ◆ Biology Higher: DNA and the Genome (outcome 2, assessment activity 2 – test)
- ◆ Biology Higher: Metabolism and Survival (outcome 2, assessment activity 2 – test)
- ◆ Biology Higher: Sustainability (outcome 2, assessment activity 2 – test)

Higher Human Biology

- ◆ Human Biology Higher: Human Cells (outcome 2, assessment activity 2 – test)
- ◆ Human Biology Higher: Physiology and Health (outcome 2, assessment activity 2 – test)
- ◆ Human Biology Higher: Neurobiology and Communication (outcome 2, assessment activity 2 – test)
- ◆ Human Biology Higher: Immunology and Public Health (outcome 2, assessment activity 2 – test)

These unit assessments are available from SQA's secure site.

Revised assessments for outcome 2 will be published for National 3, National 4 and Advanced Higher Biology in the coming weeks.

Can the new unit assessments be used to re-assess candidates for outcome 2?

These revised unit assessments can be used to re-assess candidates who have been assessed using unit assessment support pack 1 and failed to reach the 50% cut-off score. However, due to similarities in the questions, they cannot be used to re-assess candidates who have been assessed using the original unit assessment support pack 2 (combined approach, published August 2015) and failed to reach the 50% cut-off.

Can centres still use the previous unit assessments to assess candidates for outcome 2 in session 2016–17?

Yes. During session 2016–17, there are two possible options when assessing outcome 2.

Guidance on the use of each unit assessment support pack is noted in the Understanding the next steps for session 2016–17 documents. These are available via the following links:

[National 3 Biology](#)

[National 4 Biology](#)

[National 5 Biology](#)

[Higher Biology](#)

[Advanced Higher Biology](#)

[Higher Human Biology](#)

Can you clarify the requirements for re-assessment?

SQA's guidance on re-assessment is that there should be one or, in exceptional circumstances, two re-assessment opportunities. Re-assessment should be carried out under the same conditions as the original assessment. It is at a centre's discretion as to how they re-assess their candidates.

Candidates may be given a full re-assessment opportunity, or be re-assessed on individual key areas and/or problem solving skills. Candidates must achieve 50% or more of each re-assessment opportunity. If assessment standards 2.1 and 2.2 are combined then candidates must achieve 50% overall in the re-assessment. If assessment standard 2.1 is assessed separately then in the re-assessment it is 50% of the 2.1 marks. If assessment standard 2.2 is assessed separately then in the re-assessment it is 50% of each problem solving skill.

If we have adapted the questions and/or answers in a unit assessment support pack, or produced our own assessment materials, do we need to have them prior verified?

Centres should note that the questions provided in the unit assessment support packs are a sample set of questions and centres may use these unaltered or adapt them to suit their individual needs. Centres may also replace them with suitable alternatives of a similar standard. The answers provided are there for marking guidance and can also be adapted as long as the standard is maintained. If small changes are made to either the questions or the marking guidance these should be noted and provided with any materials sent in for verification purposes. If large changes are made or new assessment materials produced, centres are advised to have these prior verified by SQA before use.

Outcome 2 — Advanced Higher: *Investigative Biology* Unit

For the Advanced Higher Biology *Investigative Biology* Unit, outcome 2 has the following assessment standards:

- 2.1 Evaluating the scientific method
- 2.2 Analysing the experimental design
- 2.3 Evaluating the analysis and presentation of data
- 2.4 Evaluating conclusions

Can candidates be given a copy of the biological research report?

Before carrying out the assessment, candidates should be given a copy of the biological research report (without the assessment questions), from *Appendix 1: Assessment information for candidates*, contained within the SQA unit assessment support pack. This gives candidates the opportunity to read and think about the report. Assessors may discuss the underlying biology in the report with the candidates, as it may contain unfamiliar content. Direct discussion of the scientific methods within the report must be avoided. It is suggested that the biological research report should be issued approximately seven days prior to the assessment.

Can candidates take a copy of the biological research report into the assessment?

The content of the research paper is embedded within the actual assessment within the SQA unit assessment support pack; candidates therefore do not need to take their copy of the report into the assessment. The assessment contains the background information from the report followed by questions associated with it. It then has the details of the first experiment, followed by questions, then the results tables, followed by questions and so on.

National 4 Added Value Unit

What changes have been made to the Added Value Unit in session 2016–17?

Marks and a cut-off score have been introduced to the Biology Assignment (National 4) Added Value Unit. Centres must use the criteria exemplified in the [Understanding the next steps during session 2016–2017 document](#). A cut-off score of 50% should be applied. Candidates must achieve 7 marks or more to pass.

Can we develop our own assessments for the National 4 Added Value Unit?

Yes, centres can develop their own assessments for the National 4 Added Value Unit or use the SQA-developed assignment on SQA's secure site to assess the National 4 Added Value Unit.

Are candidates allowed to re-draft their report after teachers have marked it?

Yes, candidates are allowed to re-draft their report but this would count as a re-assessment opportunity.

What can candidates have access to during the write-up?

During Stage 2: the communication stage, candidates should have access to the material that they have generated in Stage 1: the research stage. During this stage the candidate selects, processes and presents their information/data which is generated in Stage 1: the research stage. Prepared drafts should not be used.

Can candidates choose any topic to research for the Added Value Unit as long as it is relevant to the National 4 course?

Candidates will select and investigate a relevant issue that relates to the National 4 Biology course. The issue chosen should have some impact on the environment/society.

The resource packs in the *Course and Unit Support Notes* for National 4 are only intended to exemplify material that might be given to candidates as a starting point for their research. It is not mandatory to use any of the topical issues, for example Commercial Fishing in the North Sea; centres are free to select other appropriate investigations.

Can the research work and report that candidates have completed for the National 5 assignment be submitted as a National 4 Added Value piece of work?

In session 2016–17, a National 5 assignment can be used as evidence for the Biology Assignment (National 4) Added Value Unit. If a National 5 assignment is being used as evidence for the Biology Assignment (National 4) Added Value Unit it must be internally assessed. The assessor must judge this evidence using the new marks criteria for the Biology Assignment (National 4) Added Value Unit available in the [Understanding the next steps during session 2016–17 document](#). If the candidate achieves 7 marks or more they will pass the Biology Assignment (National 4) Added Value Unit. If the candidate fails to achieve 7 marks or more they can be given the opportunity to re-draft their report. This would count as a re-assessment opportunity.

National 5 assignment

Please note: as part of the revisions to the National 5 course, the arrangements for the assignment will be updated for session 2017–18.

Can you clarify what is meant by an application of biology?

An application of biology must be a deliberate act of humans in which biology is used to effect change in the world or the environment. For example, eutrophication, in its normal sense, is not an application of biology. The process of eutrophication may be a consequence of a deliberate act of humans, eg the use of fertilisers to improve crop yield; however, unless a candidate describes a deliberate attempt to raise the nutrient status of an ecosystem, this would not be a suitable topic. Similarly, desertification would not be considered a suitable topic.

Can candidates use a logbook for their National 5 Biology assignment?

The idea of using a logbook for the research stage is acceptable. Providing that it does not give the candidate more information than that included in the instructions for candidates in the *National 5 Biology: assignment assessment task document*, it would then be appropriate to use this logbook during the communication stage. However, as drafts are **not** allowed during the communication stage, it is the assessor's responsibility to ensure that the logbook contains notes and **not** a draft copy of any section of the assignment.

A logbook that allows candidates to draft out a section(s) would **not** be acceptable as this would provide too much help. It would also allow candidates to complete the processing and presenting of data/information before the communication stage, which is **not** appropriate.

What assistance can be given to candidates prior to completing the communication stage?

Reasonable assistance may be provided prior to the formal assessment process taking place; this may be given on a generic basis to a class or group of candidates. The term 'reasonable assistance' is used to try to balance the need for support with the need to avoid giving too much assistance.

In the research stage, reasonable assistance may include:

- ◆ directing candidates to the instructions for candidates
- ◆ clarifying instructions/requirements of the task
- ◆ advising candidates on the choice of the topic or issue

In the communication stage, reasonable assistance may include:

- ◆ directing candidates to the instructions for candidates
- ◆ clarifying instructions/requirements of the task

Can candidates use the marking instructions when completing the communication stage?

No. The marking instructions should not be available to candidates during the communication stage. This would be considered as being more than 'reasonable assistance' and would therefore not be acceptable.

Can candidates use notes when completing the communication stage?

During the communication stage of the assignment, candidates should have access to the following resources:

- ◆ material collected by the candidate during the research stage — this may include, for example statistical, graphical, numerical or experimental data; data/information from the internet; published articles or extracts; notes taken from a visit or talk; notes taken from a written or audio-visual source

The assessor should check that the material used by the candidate in this communication stage conforms to the criteria above. It must not include a prepared report.

Are candidates allowed to re-draft their National 5 assignment?

No, there should be no re-drafting. Reasonable assistance does not include: providing model answers/providing feedback on drafts.

Is it possible to provide clarification regarding a potential National 5 assignment task?

SQA does not approve investigation topics for the assignment; centres are free to develop their own investigations that are related to a unit of the course.

Can candidates choose any topic to research for the assignment as long as it is relevant to the National 5 course?

Candidates are free to select appropriate investigation topics that relate to the National 5 Biology course.

Is there a support pack in terms of specific research topics?

The *Course and Unit Support Notes* contain suggested investigation topics and two resource packs. The resource packs contain background information on two topics, as well as links and suggestions to other sources of information. It exemplifies one approach to Stage 1 (research stage) of the investigation. Candidates may practise producing their report/communication using these resource packs as their sources of information/data for Stage 1 (research stage) of the investigation.

Is it acceptable to give candidates data sets and a list of sources to choose from?

Centres can provide a bank of data which candidates can then use to select appropriate information/data for their reports. It is important to remember that marks are given for candidates selecting sufficient relevant data/information for inclusion in the report; therefore the onus is on the candidate to select the data/information that they believe will do this. Centres must therefore ensure that there is sufficient data/information provided in order for candidates to make an appropriate selection.

If a centre decides to put together a resource pack then it should include not just a set of data tables but the context in which these were obtained. This will allow the candidates to decide which data/information they think is appropriate for inclusion in their reports and also provide the information that they will require to be able to carry out their evaluation. As a result it would not be appropriate or sufficient for them to simply be provided with a series of data tables.

Resources could be provided by a teacher; this could include books/articles/web links, etc.

If a resource pack is one of their sources then they would reference this by stating its title and who it was produced by, eg the name of the school. If one of the sources is an experiment/practical activity, then only the title and aim are required as raw data has been dealt with elsewhere.

During the research stage, can candidates gather evidence as a group and share it before writing the report?

Yes.

Is it mandatory to include practical work in the National 5 assignment in session 2016–17?

No. An appropriate experiment/practical activity may be used as one of the data sources — however this is not mandatory during session 2016–17.

Where a candidate uses experimental data from their outcome 1 report they should have access to the raw data **only** and not to any processed data from the report.

Please note in session 2017–18 the National 5 Biology assignment will have a focus on data from practical work undertaken by the candidate, due to the removal of units (outcome 1). There will therefore be a requirement for a mandatory practical experiment/activity in the assignment.

Can candidates use any material that they have found by doing independent research outwith class?

Yes, candidates can do some independent research outwith class. However, assessors must exercise their professional responsibility in ensuring that any materials used by a candidate are the candidate's own work, and that plagiarism has not taken place.

Can candidates write up their reports at home?

No. The write-up must be carried out under supervised conditions.

Will there be penalties for going over the word count in the National 5 assignment?

The word count of 500–800 words is an indication as to the level of detail required for the assignment. Candidates will not be penalised for going over this limit but centres should make candidates aware that by exceeding this limit they may be self-penalising. Appendices should be kept to a minimum.

Does the one hour for the National 5 assignment need to be completed in one session or can it be split over a few periods?

The rule on the time allocated to the communication stage of the assignment at National 5 has been relaxed. It is recommended that no longer than 8 hours is spent on the whole assignment. Candidates may produce their report over a period of time. If the report is completed over a number of sessions, then the assessor must retain the candidate's work between sessions. Following completion of the report there should be no re-drafting.

Is there a mandatory template for candidates to use for the National 5 Biology assignment?

There is no mandatory template for candidates to use for completion of their National 5 Biology assignment. Centres will however be sent a flyleaf and marking grid in February for each candidate in order for these to be submitted along with their National 5 Biology assignment.

Is there a candidate guide for the National 5 Biology assignment?

Yes. Instructions for candidates are provided in Appendix 1 of the *National 5 Biology: assignment — assessment task* document, on SQA's secure website. The instructions for candidates must be detached and given to the candidate.

Do candidates have to submit another assignment if they are re-sitting the external assessment?

Yes. Coursework is an externally assessed component and would therefore need to be submitted.

Higher Biology and Higher Human Biology assignment

How many sources of raw data/information need to be processed and presented?

One source of raw data/information must be processed and presented. The chosen format must be a graph, table, chart or diagram.

Can candidates use a logbook for their Higher assignment?

The idea of using a logbook for the research stage is acceptable. Providing that it does not give the candidate more information than that included in the instructions for candidates in the *Higher Biology/Higher Human Biology: assignment assessment task documents*, it would be appropriate to use this logbook during the communication stage. However, as drafts are **not** allowed during the communication stage it is the assessor's responsibility to ensure that the logbook contains notes and **not** a draft copy of any section of the assignment.

A logbook that allows candidates to draft out a section(s) would **not** be acceptable as this would provide too much help. It would also allow candidates to complete the processing and presenting of data/information before the communication stage, which is **not** appropriate.

What assistance can be given to candidates prior to completing the communication stage?

Reasonable assistance may be provided prior to the formal assessment process taking place; this may be given on a generic basis to a class or group of candidates.

The term 'reasonable assistance' is used to try to balance the need for support with the need to avoid giving too much assistance.

In the research stage, reasonable assistance may include:

- ◆ directing candidates to the instructions for candidates
- ◆ clarifying instructions/requirements of the task
- ◆ advising candidates on the choice of the topic or issue

In the communication stage, reasonable assistance may include:

- ◆ directing candidates to the instructions for candidates
- ◆ clarifying instructions/requirements of the task

Can candidates use the marking instructions when completing the communication stage?

No. The marking instructions should not be available to candidates during the communication stage. This would be considered as being more than 'reasonable assistance' and would therefore not be acceptable.

Can candidates use notes when completing the communication stage?

During the communication stage of the assignment, candidates should have access to the following resources:

- ◆ material collected by the candidate during the research stage — this may include, for example, statistical, graphical, numerical or experimental data; data/information from the internet; published articles or extracts; notes taken from a visit or talk; notes taken from a written or audio-visual source

The assessor should check that the material used by the candidate in this communication stage conforms to the criteria above. It must not include a prepared report.

Are candidates allowed to re-draft their Higher assignment?

No, there should be no re-drafting. Reasonable assistance does not include: providing model answers/providing feedback on drafts.

Does the topic chosen for the Higher assignment task need to have an application of biology/human biology associated with it?

No. The assignment assessment task at Higher asks candidates to 'investigate a relevant topic in biology/human biology' and states that it 'must relate to a key area of the course'. This means that, unlike National 5 Biology, the topic does not need to have an application associated with it.

Is it possible to provide clarification regarding a potential Higher assignment task?

SQA does not approve investigation topics for the assignment; centres are free to develop their own investigations that are related to one or more of the key areas of the course.

Is there a support pack in terms of specific research topics?

At Higher, there are no suggested investigation topics or resource packs included in the *Course and Unit Support Notes*; the assessor has responsibility for ensuring that the topic to be investigated by the candidate is sufficiently demanding. Assessors and candidates should choose relevant topical contexts appropriate to the learning and teaching; however it is the assessor's responsibility to ensure that the topic will allow the candidate to provide evidence of an appropriate standard to achieve the full range of marks available. SSERC have produced resource packs for the Higher assignment. They have, to date, produced one resource for Higher Biology and two resources for Higher Human Biology. These are available via the following links:

- ◆ [Higher Biology assignment — Resource pack: The production of microorganisms](#)
- ◆ [Higher Human Biology assignment — Resource pack: The global rise in obesity and Type 2 diabetes](#)
- ◆ [Higher Human Biology assignment — Resource pack: Ebola — a viral disease](#)

Is it acceptable to give candidates data sets and a list of sources to choose from?

Centres can provide a bank of data which candidates can then use to select appropriate information/data for their reports. It is important to remember that marks are given for candidates selecting sufficient relevant data/information for inclusion in the report; therefore the onus is on the candidate to select the data/information that they believe will do this. Centres must therefore ensure that there is sufficient data/information provided in order for candidates to make an appropriate selection.

If a centre decides to put together a resource pack then it should include not just a set of data tables but the context in which these were obtained. This will allow the candidates to decide which data/information they think is appropriate for inclusion in their reports and also provide the information that they will require to be able to carry out their evaluation. As a result it would not be appropriate or sufficient for them to simply be provided with a series of data tables.

SSERC have produced data sets for the Higher assignment. These are available via the following link:

- ◆ [Data sets Higher Biology and Higher Human Biology](#)

Resources could be provided by a teacher; this could include books/articles/web links, etc.

If a resource pack is one of their sources then they would reference this by stating its title and who it was produced by, eg the name of the school. If one of the sources is an experiment/practical activity, then only the title and aim are required as raw data has been dealt with elsewhere.

During the research stage, can candidates gather evidence as a group and share it before writing the report?

Yes.

Is it mandatory to include practical work in the Higher assignment in session 2016–17?

No. An appropriate experiment/practical activity may be used as one of the data sources, however this is not mandatory during session 2016–17.

Where a candidate uses experimental data from their outcome 1 report they should have access to the raw data only and not to any processed data from the report.

Can candidates use any material that they have found by doing independent research outwith class?

Yes, candidates can do some independent research outwith class. However, assessors must exercise their professional responsibility in ensuring that any materials used by a candidate are the candidate's own work, and that plagiarism has not taken place.

Can candidates write up their reports at home?

No. The write-up must be carried out under supervised conditions.

Will there be penalties for going over the word count in the Higher assignment?

The word count of 800–1,500 words is an indication as to the level of detail required for the assignment. Candidates will not be penalised for going over this limit but centres should make candidates aware that by exceeding this limit they may be self-penalising. Appendices should be kept to a minimum.

Does the Higher assignment need to be completed in one session or can it be split over a few periods?

It is recommended that no longer than 8 hours is spent on the whole assignment. Candidates may produce their report over a period of time. If the report is completed over a number of sessions, then the assessor must retain the candidate's work between sessions. Following completion of the report there should be no re-drafting.

Is there a mandatory template for candidates to use for the Higher assignment?

There is no mandatory template for candidates to use for completion of their Higher Biology assignment. Centres will however be sent a flyleaf and marking grid in February for each candidate in order for these to be submitted along with their Higher Biology assignment.

Is there a candidate guide for the Higher assignment?

Yes. Instructions for candidates are provided in Appendix 1 of the *Higher Biology/Human Biology: assignment — assessment task* document, on SQA's secure website. The instructions for candidates must be detached and given to the candidate.

Advanced Higher Biology Project

Is there a candidate guide for the Advanced Higher Biology project?

Yes. Instructions for candidates are provided in Appendix 1 of the *Advanced Higher Biology: project – assessment task* document, on SQA's secure website. The instructions for candidates must be detached and given to the candidate prior to them starting their investigation.

SSERC has also published the following guides for candidates and teachers/lecturers:

- ◆ [Advanced Higher Biology Project Investigations](#)
- ◆ [Statistics for School Biology Experiments and Advanced Higher Project.](#)

Can candidates use the record of work from their *Investigative Biology* Unit as the basis for their project report?

Yes. The record of work from their *Investigative Biology* Unit can be used as the basis for the project report.

Do candidates need to submit a day book as part of the evidence for their project?

No. The only evidence to be submitted for external assessment is the project report.

Can you clarify what referencing system candidates must use?

The Harvard or Vancouver systems of referencing must be used.

Will there be penalties for going over the word count in the Advanced Higher project?

Yes. As a guide, the project-report should be between 3,000 and 3,600 words in length excluding the title page, contents page, tables, graphs, diagrams, calculations, references, acknowledgements and any appendices. The word count should be submitted with the project-report. If the word count exceeds the maximum by 10%, a 3 mark penalty will be applied.

Is it possible to provide clarification regarding a potential Advanced Higher project topic?

SQA does not approve investigation topics for the Advanced Higher Biology project.

Can you clarify what is meant by an independent replicate?

Independent replicates represent an entirely separate data set; for example by repeating the experiment on a separate occasion or by sampling from a different location. Simply increasing the sample size would not be considered as an independent replicate.

Candidates should make it clear in their report that they have carried out independent replication.

The marking instructions in the Advanced Higher Biology *Project Assessment Task* provide further information.

NQ Biology/Human Biology – available support

This section provides hyperlinks to various resources to support teachers and lecturers. To access the relevant document, click on the hyperlink below each header.

Life Sciences Blog

[Latest news, information and updates relating to the work of the team](#)

Subject updates

[October 2016](#)

[May 2016](#)

[October 2015](#)

Understanding the next steps for session 2016–17

[National 3
Higher Biology](#)

[National 4
Higher Human Biology](#)

[National 5
Advanced Higher](#)

Common questions

[Common questions and associated answers](#)

Please note: these are updated regularly therefore check the subject homepage to ensure access to the most recent version.

Audio presentations

[A detailed overview of the standards and assessment for both unit and course assessment](#)

External Assessment

2016 Course reports

These provide information on the performance of candidates in the course assessment. The reports also contain advice on preparing candidates for future examinations.

[National 5](#) [Higher Biology](#) [Higher Human Biology](#) [Advanced Higher](#)

Question paper briefs

These provide information on the structure and make-up of the question papers.

[National 5](#) [Higher Biology](#) [Higher Human Biology](#) [Advanced Higher](#)

Past question papers

[National 5](#) [Higher Biology](#) [Higher Human Biology](#) [Advanced Higher](#)

Specimen question papers

[National 5](#) [Higher Biology](#) [Higher Human Biology](#) [Advanced Higher](#)

Exemplar question papers

[Advanced Higher](#)

Guidance on the use of past paper questions

[National 5](#) [Higher Biology](#) [Higher Human Biology](#) [Advanced Higher](#)

Exemplification of the national standard

These packs contain candidate evidence and associated commentaries for **course assessment**. The commentaries explain the allocation of marks by the examining team.

National 5	Question Paper	Assignment
Higher Biology	Question Paper	Assignment
Higher Human Biology	Question Paper	Assignment
Advanced Higher Biology	Question Paper	Project

Assignment/project marking instructions

[National 5](#) [Higher Biology](#) [Higher Human Biology](#) [Advanced Higher](#)

Instructions for candidates (assignment/project) – secure website

Appendix 1 within the course/project assessment task.

[National 5](#) [Higher Biology](#) [Higher Human Biology](#) [Advanced Higher](#)

Internal Assessment

Verification key messages

These are produced after each round of verification to provide feedback to teachers and lecturers. They will be helpful when assessing candidates and preparing for future verification activity.

[October 2016](#) [October 2015](#)

Exemplification of the national standard – secure website

These packs contain candidate evidence and associated commentaries for **unit assessment**. The commentaries explain why the evidence does or does not meet the relevant assessment standards.

[Biology](#) [Human Biology](#)

Unit assessment support packs – secure website

SQA produced unit assessments [Biology](#) [Human Biology](#)

Prior verified materials – secure website

Centre produced unit assessments [Biology](#) [Human Biology](#)

Internal verification toolkit

[Advice, guidance and templates for internal verification](#)