



NQ Verification 2013–14

Key Message Reports

Verification group name:	Biology
Levels	N3 to N5
Date published:	July 2014

This Report combines all Verification Key Messages for the academic session 2013-14.



NQ Verification 2013–14 Key Messages Round 1

01

Section 1: Verification group information

Verification group name:	Biology
Verification event/visiting information	Event
Date published:	January 2014

National Courses/Units/Awards verified:

Code: 73, 74, 75 National 3, 4, 5 Biology

02

Section 2: Comments on assessment

Assessment approaches

Outcome 1: The candidate will apply skills of scientific inquiry and draw on knowledge and understanding of the key areas of the Unit to carry out an experiment/practical investigation.

The degree of support provided to candidates should not restrict their active planning of a procedure. Class or group discussion to set the scene may be appropriate; however, a detailed list of questions or instructions would not be appropriate. The level of support provided should be in line with the candidate guide provided in *Unit Assessment Support Pack 1: Appendix 1* (available for download from SQA's secure website: www.sqa.org.uk/sqasecure).

A detailed pro forma (eg of the type used in Standard Grade investigations) is not appropriate for National 4 or National 5 candidates.

Where centres wish to combine an experiment/practical investigation for more than one level (eg for National 4 and National 5 candidates together) they must ensure that the topic is related to a key area of the Course at each level. In some cases, this was a failing of material submitted for verification.

Centres are reminded that it may be possible to reduce the assessment burden on candidates by achieving some aspects of Assessment Standard 2.4 (solving problems) via a carefully designed experiment/practical investigation.

Outcome 2: The candidate will draw on knowledge and understanding of the key areas of the Unit and apply scientific skills by:

Assessment Standard 2.1 Making accurate statements

Many centres have chosen to use the published SQA Unit assessment support packs. Other centres have made minor modifications to aspects of the Unit assessment support packs. Provided this modified instrument of assessment still relates to the key areas of the Course, and is of an appropriate standard, such an approach is encouraged.

Centres are reminded that national standards remain unchanged; therefore, since previously published SQA assessment materials at Standard Grade Credit or Intermediate 2 are at SCQF level 5 they may, with suitable adaptations, be appropriate for National 5. Similarly, Standard Grade General or Intermediate 1 questions are at SCQF level 4 and, with suitable adaptations, may be appropriate for National 4. Access 3 questions are at SCQF level 3 and, with suitable adaptations, may be appropriate for National 3.

Any centre-devised instruments of assessment must be at a standard and level appropriate to Unit assessment, and questions must relate to a key area of the Course. Unit assessments are benchmarked at C level, therefore the questions should not be more demanding than necessary. The level of demand should be considered if centres are using questions from previously published SQA assessment materials.

Centres are reminded that, where Unit assessment support packs are modified, or where centre-devised instruments of assessment are used, the individual key areas being assessed should be easily identifiable. This is necessary to ensure that candidates are provided with the opportunity to make accurate statements for all of the key areas of the Course.

The number of opportunities to make accurate statements should be appropriate to the size of the key area.

Very few centre-devised instruments of assessment submitted for verification satisfied the criteria stated above.

Centres should make use of SQA's prior verification service where significant changes are made to the Unit assessment support packs, or for centre-devised assessments. Further information on SQA's Prior Verification service is located on the website at: <http://www.sqa.org.uk/sqa/63004.html>

Assessment Standard 2.2 Describing an application

Assessors are encouraged to check that an appropriate title is selected before allowing candidates to proceed with an assessment task and produce their report.

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 for Assessment Standard 2.2. Similarly, desertification would not be considered a suitable topic.

Some suggested topics are provided in the Unit assessment support packs.

The level of support provided to candidates should be in line with the candidate guide provided in *Unit Assessment Support Pack 1: Appendix 1*. Class or group discussion to set the scene may be appropriate; however, a detailed list of questions or instructions would not be appropriate.

Assessment Standard 2.3 Describing a biological issue in terms of the effect on the environment/society

Assessors are encouraged to check that an appropriate title is selected before allowing candidates to proceed with the assessment task and produce their report.

The level of support provided to candidates should be in line with the candidate guide provided in *Unit assessment support pack 1: Appendix 1*. Class or group discussion to set the scene may be appropriate; however, a detailed list of questions or instructions would not be appropriate.

Assessment Standard 2.4 Solving problems

Many centres have chosen to use the published SQA Unit assessment support packs. Other centres have made minor modifications to aspects of the Unit assessment support packs. Provided this modified instrument of assessment still covers the relevant problem solving skills, and is of an appropriate standard, such an approach is encouraged.

Centres are reminded that national standards remain unchanged therefore, as with Assessment Standard 2.1, previously published SQA assessment materials may be suitable.

Centres are reminded that, where Unit assessment support packs are modified or where centre-devised instruments of assessment are used, individual problem solving skills should easily identifiable. This is necessary to ensure that candidates are provided with the opportunity to demonstrate all four of the problem solving skills at National 5 (making generalisations/predictions, selecting

information, processing information and analysing information) and all three of the problem solving skills at National 3 and National 4 (making generalisations/predictions, selecting information, processing information).

Assessment judgements

Centres are reminded that Assessment Standards 1.1 to 1.6 can be achieved independently of each other in separate experiments/practical investigations, or altogether in one single experiment/practical investigation.

Assessment Standard 1.1 Planning an experiment/practical investigation (National 4 and National 5 only)

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 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.

As stated in the candidate guide (*Unit Assessment Support Pack 1: Appendix 1*), candidates are encouraged to ensure that their plan is checked by their assessor before starting practical work.

Identifying and stating a valid aim is key to a successful experimental/investigation procedure. In many cases within reports submitted for verification, candidates have attempted to carry out an experiment/practical activity without a clear aim being stated. Achieving any of the Assessment Standards thereafter is problematic.

Assessors are therefore encouraged to check that a valid aim is stated before allowing candidates to proceed with their experiment/investigation plan. Re-

drafting of the aim, as required, is to be encouraged. This would be considered as a re-assessment opportunity.

Dependent and independent variables (National 5) must be explicitly stated, not just implied. For example, in an investigation into the effect of light intensity on photosynthesis rate:

'I will alter the light intensity and measure the rate of photosynthesis' is insufficient to show that the candidate has understood the terms dependent and independent variables. Candidates must state eg 'the independent variable is the light intensity and the dependent variable is the rate of photosynthesis'.

Re-drafting of a report, after necessary supportive criticism, is to be encouraged. This would be considered as a re-assessment opportunity.

Candidates should be encouraged to consider aspects of safety specifically associated with their procedure, rather than simply stating, for example, that safety goggles should be worn.

Assessment Standard 1.4 Drawing valid conclusions (National 3)

Assessment Standard 1.5 Drawing valid conclusions (National 4 and National 5)

Valid conclusions can only relate specifically to the aim of the investigation. If an invalid aim is stated (see previous guidance for 1.1) then it is very difficult for candidates to produce a valid or meaningful conclusion.

Assessment Standard 1.5 Evaluating experimental procedures (National 3)

Assessment Standard 1.6 Evaluating experimental procedures (National 4 and National 5)

In order to overtake this Assessment Standard, candidates are required to suggest an improvement to their experiment (National 3 and 4) or suggest an improvement to their experiment with justification (National 5).

Candidates should be encouraged to consider specific aspects of their experiment/practical investigation, and to ensure that a meaningful improvement is suggested.

Outcome 2: The candidate will draw on knowledge and understanding of the key areas of the Unit and apply scientific skills by

Assessment Standard 2.1 Making accurate statements

At least half of the statements made by the candidate should be correct for each Unit. Where centres have misunderstood the meaning of the assessment grid and have required candidates to achieve complete mastery of a key area to gain credit for it (ie they have totalled the number of Xs on the assessment grid and divided by two) they may have disadvantaged some of their candidates.

Updated versions of the Unit assessment support packs, with an indication of the number of opportunities to make accurate KU statements for each question, will shortly be available for download from SQA's secure website:

www.sqa.org.uk/sqasecure

Centres that have misunderstood the meaning of the assessment grid may choose to apply revised marking criteria in order to not disadvantage their candidates.

Rigorous, accurate and consistent application of a marking scheme is essential. This can be facilitated by effective internal verification procedures within a centre.

Marking guidance provided in the Unit assessment support packs is not intended to be exhaustive of all possibilities and can be modified. Modifications, where made, should be noted and should be subject to effective internal quality assurance processes.

Assessment Standard 2.2 Describing an application

Appropriate biology knowledge should be used in the description of the application, at a level appropriate to National 3, 4 or 5.

Re-drafting of aspects of a report, after necessary supportive criticism, is to be encouraged. This would be considered as a re-assessment opportunity.

Assessment Standard 2.3 Describing a biological issue in terms of the effect on the environment/society

Many centres had indicated that candidates had overtaken this Assessment Standard, despite candidates' failing to provide sufficient detail of the impact of the application on the environment or society in their reports.

Re-drafting of aspects of a report, after necessary supportive criticism, is to be encouraged. This would be considered as a re-assessment opportunity.

Assessment Standard 2.4 Solving problems

Where candidates have more than one opportunity to demonstrate a specific problem solving skill in any given assessment, they must do so on at least half of those occasions. Where a specific problem solving skill has successfully been achieved in any given assessment, this problem solving skill can be 'banked', and there is no need to continually recalculate whether or not the candidate has achieved 50% of all further attempts.

Centres are reminded that it may be possible to reduce the assessment burden on candidates by achieving some aspects of Assessment Standard 2.4 (solving problems) via a carefully designed experiment/practical investigation.

The presentation of graphical information should not be classified as one of the types of problem solving skill, but it could be used to show evidence of Assessment Standard 1.4 (1.3 at National 3): Presenting results in an appropriate format.

03

Section 3: General comments

Centre staff are reminded that all centres offering SQA qualifications must have an effective internal quality assurance system which ensures that all candidates are assessed accurately, fairly and consistently to national standards. Centres selected for external verification are expected to provide details of their quality assurance policies and processes.

Exemplification materials to support aspects of this key messages report will be published shortly.



NQ Verification 2013–14 Key Messages Round 2

01 Section 1: Verification group information

Verification group name:	Biology
Verification event/visiting information	Event
Date published:	2014

National Courses/Units/Awards verified:

Code: 73, 74, 75 National 3, 4, 5 Biology

02 Section 2: Comments on assessment

Assessment approaches

Outcome 1: The candidate will apply skills of scientific inquiry and draw on knowledge and understanding of the key areas of the Unit to carry out an experiment/practical investigation.

The choice of topic for the experiment/practical investigation is important if all candidates are to be given the opportunity to overtake Assessment Standard 1.1 *Planning an experiment/practical investigation*. In some instances of material submitted for verification, it appeared as if a whole class experiment had been carried out and class results had then been collated. Whilst this is good practice for calculating averages and thereby allowing a consideration of reliability, this limits the potential for candidates to be actively involved in planning their own

experiment/practical investigation. Contexts which allow more potential for planning should be chosen — eg enzyme experiments in which candidates select the variable they are altering, then adapt the rough method which they may have discussed, and then identify the other key variables which they must then keep constant.

The degree of support provided to candidates should not restrict their active planning of a procedure. Class or group discussion to set the scene may be appropriate; however, a detailed list of questions or instructions would not be appropriate.

Candidates may be able to work in groups to carry out practical work; however, assessors should ensure that every candidate is actively involved in the planning of the experiment/practical investigation. It is therefore likely that different candidates will have different methods and/or different types of results.

The level of support provided should be in line with the candidate guide provided in *Unit Assessment Support Pack 1: Appendix 1* (available for download from SQA's secure website: www.sqa.org.uk/sqasecure).

A detailed pro forma (eg of the type used in Standard Grade investigations) is not appropriate for National 4 or National 5 candidates. If a pro forma is used for National 3 candidates, the pro forma should not include pre-populated tables etc. If candidates are to overtake Assessment Standard 1.3 at National 3, *Presenting results in an appropriate format*, it is expected that they are actively involved in the construction of a table, graph, chart, key, diagram, flow chart or other appropriate format.

Where centres wish to combine an experiment/practical investigation for more than one level (eg for National 4 and National 5 candidates together) they must ensure that the topic is related to a key area of the Course at each level. In some cases, this was a failing of material submitted for verification.

Centres are reminded that it may be possible to reduce the assessment burden on candidates by achieving some aspects of Assessment Standard 2.4 *Solving problems* via a carefully designed experiment/practical investigation.

Outcome 2: The candidate will draw on knowledge and understanding of the key areas of the Unit and apply scientific skills by:

Assessment Standard 2.1 Making accurate statements

Many centres have chosen to use the published SQA Unit assessment support packs. Other centres have made minor modifications to aspects of the Unit assessment support packs. Provided this modified instrument of assessment still relates to the key areas of the Course, and is of an appropriate standard, such an approach is encouraged.

Centres are reminded that national standards remain unchanged; therefore, since previously published SQA assessment materials at Standard Grade Credit or

Intermediate 2 are at SCQF level 5 they may, with suitable adaptations, be appropriate for National 5. Similarly, Standard Grade General or Intermediate 1 questions are at SCQF level 4 and, with suitable adaptations, may be appropriate for National 4. Access 3 questions are at SCQF level 3 and, with suitable adaptations, may be appropriate for National 3.

Any centre-devised instruments of assessment must be at a standard and level appropriate to Unit assessment, and questions must relate to a key area of the Course. Unit assessments should not be more demanding than necessary. The level of demand should be considered if centres are using questions from previously published SQA assessment materials.

Centres are reminded that, where Unit assessment support packs are modified, or where centre-devised instruments of assessment are used, the individual key areas being assessed should be easily identifiable. This is necessary to ensure that candidates are provided with the opportunity to make accurate statements for all of the key areas of the Course.

The number of opportunities to make accurate statements should be appropriate to the size of the key area.

When using the portfolio approach, the smallest 'chunk' that can be assessed is a key area.

Centres that devise their own instruments of assessments are advised not to include too many multiple-choice questions; one or two questions per Unit would be appropriate.

Very few centre-devised instruments of assessment submitted for verification satisfied the criteria stated above.

Centres should make use of SQA's prior verification service where significant changes are made to the Unit assessment support packs, or for centre-devised assessments. Further information on SQA's prior verification service is located on the website at: www.sqa.org.uk/sqa/63004.html

Assessment Standard 2.2 Describing an application

Assessors are encouraged to check that an appropriate title is selected before allowing candidates to proceed with an assessment task and produce their report.

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 for Assessment Standard 2.2. Similarly, desertification would not be considered a suitable topic.

Some suggested topics are provided in the Unit assessment support packs.

The level of support provided to candidates should be in line with the candidate guide provided in *Unit Assessment Support Pack 1: Appendix 1*. Class or group discussion to set the scene may be appropriate; however, a detailed list of questions or instructions would not be appropriate.

Assessment Standard 2.3 Describing a biological issue in terms of the effect on the environment/society

Assessors are encouraged to check that an appropriate title is selected before allowing candidates to proceed with the assessment task and produce their report.

The level of support provided to candidates should be in line with the candidate guide provided in *Unit assessment support pack 1: Appendix 1*. Class or group discussion to set the scene may be appropriate; however, a detailed list of questions or instructions would not be appropriate.

Assessment Standard 2.4 Solving problems

Many centres have chosen to use the published SQA Unit assessment support packs. Other centres have made minor modifications to aspects of the Unit assessment support packs. Provided this modified instrument of assessment still covers the relevant problem solving skills, and is of an appropriate standard, such an approach is encouraged.

Centres are reminded that national standards remain unchanged therefore, as with Assessment Standard 2.1, previously published SQA assessment materials may be suitable.

Centres are reminded that, where Unit assessment support packs are modified or where centre-devised instruments of assessment are used, individual problem solving skills should be easily identifiable. This is necessary to ensure that candidates are provided with the opportunity to demonstrate all four of the problem solving skills at National 5 (making generalisations/predictions, selecting information, processing information and analysing information) and all three of the problem solving skills at National 3 and National 4 (making generalisations/predictions, selecting information, processing information).

To date, few centres have attempted to combine the assessment of different Outcomes and Assessment Standards. Where attempted, this should not detract from the integrity and rigour of the assessment standard in question. Outcome 1 could be combined with Assessment Standard 2.4 — *Problem Solving*; however, care would need to be taken to ensure that the level of demand is equivalent to published assessment material.

Assessment judgements

Centres should ensure that candidate scripts are annotated by the assessor to show where a particular assessment standard has been achieved.

Centres are reminded that Assessment Standards 1.1 to 1.6 can be achieved independently of each other in separate experiments/practical investigations, or altogether in one single experiment/practical investigation.

*Assessment Standard 1.1 Planning an experiment/practical investigation
(National 4 and National 5 only)*

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 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.

As stated in the candidate guide (*Unit Assessment Support Pack 1: Appendix 1*), candidates are encouraged to ensure that their plan is checked by their assessor before starting practical work.

Identifying and stating a valid aim is key to a successful experimental/investigation procedure. In many cases within reports submitted for verification, candidates have attempted to carry out an experiment/practical activity without a clear aim being stated. Achieving any of the Assessment Standards thereafter is problematic.

Assessors are therefore encouraged to check that a valid aim is stated before allowing candidates to proceed with their experiment/investigation plan. Re-

drafting of the aim, as required, is to be encouraged. This would be considered as a re-assessment opportunity.

Dependent and independent variables (National 5) must be explicitly stated, not just implied. For example, in an investigation into the effect of light intensity on photosynthesis rate:

'I will alter the light intensity and measure the rate of photosynthesis' is insufficient to show that the candidate has understood the terms dependent and independent variables. Candidates must state eg 'the independent variable is the light intensity and the dependent variable is the rate of photosynthesis'.

Re-drafting of a report, after necessary supportive criticism, is to be encouraged. This would be considered as a re-assessment opportunity.

Candidates should be encouraged to consider aspects of safety specifically associated with their procedure, rather than simply stating, for example, that safety goggles should be worn.

Assessment Standard 1.4 Drawing valid conclusions (National 3)

Assessment Standard 1.5 Drawing valid conclusions (National 4 and National 5)

Valid conclusions can only relate specifically to the aim of the investigation. If an invalid aim is stated (see previous guidance for 1.1) then it is very difficult for candidates to produce a valid or meaningful conclusion.

Assessment Standard 1.5 Evaluating experimental procedures (National 3)

Assessment Standard 1.6 Evaluating experimental procedures (National 4 and National 5)

In order to overtake this Assessment Standard, candidates are required to suggest an improvement to their experiment (National 3 and 4) or suggest an improvement to their experiment with justification (National 5).

Candidates should be encouraged to consider specific aspects of their experiment/practical investigation, and to ensure that a meaningful improvement is suggested.

Outcome 2: The candidate will draw on knowledge and understanding of the key areas of the Unit and apply scientific skills by

Assessment Standard 2.1 Making accurate statements

At least half of the statements made by the candidate should be correct for each Unit. Where centres have misunderstood the meaning of the previously published assessment grid and have required candidates to achieve complete mastery of a key area to gain credit for it (ie they have totalled the number of Xs on the

assessment grid and divided by two) they may have disadvantaged some of their candidates.

Updated versions of the Unit assessment support packs, with an indication of the number of opportunities to make accurate KU statements for each question, are now available for download from SQA's secure website:

www.sqa.org.uk/sqasecure

Centres that have misunderstood the meaning of the previously published assessment grid may choose to apply revised marking criteria in order to not disadvantage their candidates.

Rigorous, accurate and consistent application of a marking scheme is essential. This can be facilitated by effective internal verification procedures within a centre.

Marking guidance provided in the Unit assessment support packs is not intended to be exhaustive of all possibilities and can be modified. Modifications, where made, should show precisely how marks are allocated, and they should show acceptable and unacceptable answers. This increases clarity and consistency between different assessors. Any modifications should be subject to effective internal quality assurance processes.

Centres are reminded that they may use the SQA Unit assessment support packs as they are, or they may modify them to suit their individual learning and teaching approaches, provided any modifications are subject to rigorous internal quality assurance processes.

Assessment Standard 2.2 Describing an application

Appropriate biology knowledge should be used in the description of the application, at a level appropriate to National 3, 4 or 5.

Re-drafting of aspects of a report, after necessary supportive criticism, is to be encouraged. This would be considered as a re-assessment opportunity.

Assessment Standard 2.3 Describing a biological issue in terms of the effect on the environment/society

Many centres had indicated that candidates had overtaken this Assessment Standard, despite candidates failing to provide sufficient detail of the impact of the application on the environment or society in their reports.

Re-drafting of aspects of a report, after necessary supportive criticism, is to be encouraged. This would be considered as a re-assessment opportunity.

Assessment Standard 2.4 Solving problems

Where candidates have more than one opportunity to demonstrate a specific problem solving skill in any given assessment, they must do so on at least half of those occasions. Where a specific problem solving skill has successfully been

achieved in any given assessment, this problem solving skill can be ‘banked’, and there is no need to continually recalculate whether or not the candidate has achieved 50% of all further attempts.

Centres are reminded that it may be possible to reduce the assessment burden on candidates by achieving some aspects of Assessment Standard 2.4 (solving problems) via a carefully designed experiment/practical investigation.

The presentation of graphical information should not be classified as one of the types of problem solving skill, but it could be used to show evidence of Assessment Standard 1.4 (1.3 at National 3): Presenting results in an appropriate format.

National 4: Added Value Unit

To date, very few centres have submitted evidence for the National 4 Assignment Added Value Unit.

Examples of good practice seen have included candidate material consisting of both a presentation and a written report. Although this is not necessary, it is a good strategy for overtaking all the Assessment Standards.

It is worth noting that tables or graphs, copied and pasted from an external source, are insufficient to achieve Assessment Standard 1.3, *Presenting appropriate information/data*. Candidates must be actively involved in presenting their gathered information in at least one format that could be a table, graph, chart, key, diagram, flow chart or other appropriate format.

In order to achieve Assessment Standard 1.5, *Communicating the findings of the investigation*, there must be some flow and coherence to the communication. A series of separate pieces of information, selected from an external source or sources, simply presented one after another without any coherence or clarity would not be sufficient to meet the Evidence Requirements of Assessment Standard 1.5. As stated in the Unit Specification, the communication must be clear, concise, relevant and appropriately structured.

03

Section 3: General comments

Centre staff are reminded that all centres offering SQA qualifications must have an effective internal quality assurance system which ensures that all candidates are assessed accurately, fairly and consistently to national standards. Centres selected for external verification are expected to provide details of their quality assurance policies and processes.

Exemplification materials to support aspects of this key messages report will be published shortly.



NQ Verification 2013–14 Key Messages Round 3

01

Section 1: Verification group information

Verification group name:	Biology
Verification event/visiting information	Event
Date published:	June 2014

National Courses/Units/Awards verified:

National 4 Biology Assignment (H20A 74) Added Value Unit

02

Section 2: Comments on assessment

Assessment approaches

Most candidate evidence submitted for verification took the form of written reports. Some excellent candidate material consisted of both a presentation and a written report. Although not necessary, it was seen to be a good strategy for overtaking all the Assessment Standards.

Posters seemed to be an effective means of engaging candidates and many good examples of posters produced by candidates were submitted for verification.

Assessment judgements

Centres should ensure that candidate scripts are annotated by the assessor to show where a particular Assessment Standard has been achieved. This is helpful for candidates and for verifiers. Centres should also record reasons for judgements in a clear manner for verification purposes.

Candidates are allowed to redraft their report to ensure that all Assessment Standards have been met, but this would count as a re-assessment opportunity.

03

Section 3: General comments

Assessment Standard 1.1 Choosing, with justification, a relevant issue in biology

This Assessment Standard proved largely straightforward for centres and candidates; issues arose where there was misunderstanding of ‘with justification’. The judging evidence table for Biology Assignment (National 4) Added Value Unit (contained in the Unit assessment support pack found on the SQA secure website) provides the following guidance for making assessment judgements:

The candidate must:

- ◆ state clearly the issue to be investigated
- ◆ state briefly in what way the issue is relevant to the environment/society

The justification for choosing the issue must therefore include a statement explaining the relevance of the issue to the environment/society. There is no need for the issue to be an application of biology, ie it does not need to be a deliberate use of biology by humans.

Some centres submitted evidence for this Assessment Standard, and for Assessment Standard 1.2, in the form of a candidate’s log or journal. This is perfectly acceptable.

Assessment Standard 1.2 Researching the issue

The candidate is required to record at least two relevant sources of information/data in such a way that they could be retrieved by a third party (there is no need to follow a formal referencing system) — if one of the sources is an experiment/practical activity, then the title and the aim should be recorded.

Verifiers had difficulty following the referencing system used by candidates in some reports. If a website is used as the original source of information, then a full URL should be supplied.

The candidate is also required to gather appropriate and sufficient information/data from at least two relevant sources.

Some candidates used an experiment/practical activity (which may have been used for the assessment of Outcome 1) as one of the two sources of data. This is

good practice, and may reduce the assessment burden on candidates. If this approach is adopted, it is important to ensure that the experiment/practical activity is clearly linked to an issue that satisfies the criteria for Assessment Standard 1.1, ie the candidate should be able to see and explain the relevance of their experiment/practical activity to the environment/society. The candidate will also have to find another source of information that links to this issue.

Assessment Standard 1.3 Presenting appropriate information/data

Copied and pasted graphs, tables, etc do not overtake this Assessment Standard, since candidates must present some of their information/data in their own way. Hand-drawn graphs and tables are often of a much higher standard than computer-generated tables and graphs produced by candidates. The correct use of title, labels and units (where appropriate) is essential; although candidates should not be penalised if there are only minor omissions/errors to the presentation and there is sufficient detail to convey the information/data.

The production of a report is not, in itself, sufficient to overtake Assessment Standard 1.3. If a candidate is aiming to overtake Assessment Standard 1.3 by summarising information from two sources into a single report, there must be clear signposting to show what the original text is and how it has been summarised. This could be achieved by including the original raw data (preferably annotated) in the final report, alongside the summary that the candidate has produced.

Assessment Standard 1.4 Explaining the impact, in terms of the biology involved

Guidance should be given to candidates in the initial stages of choosing a topic to ensure that this is an Assessment Standard that they can meet. As stated, there is no requirement for the issue to be an application of biology. The impact can be positive and/or negative.

Assessment Standard 1.5 Communicating the findings of the investigation

In order to achieve this Assessment Standard, there must be some flow and coherence to the communication. A series of separate pieces of information, selected from an external source or sources, simply presented one after another without any coherence or clarity would not be sufficient to meet the Evidence Requirements of Assessment Standard 1.5. As stated in the Unit Specification, the communication must be clear, concise, relevant and appropriately structured.

A summary paragraph, or conclusion, at the end of the report was often seen to be an effective means of ensuring that the candidate sums up the ideas, issues, findings or conclusions in response to the topical issue and its impact on the environment/society.