

Course report 2026

Higher Biology, SCQF level 6

We've written this report for teachers and lecturers. We recommend you read this with the published course assessment documents and marking instructions.

Note: we've made changes to the course assessment from session 2026–27.

Check your [subject page](#) for more information.

The report:

- provides a summary of how each course component performed
- highlights areas of the question paper and coursework where candidates performed well and areas where they did not perform well
- has advice you might find useful when preparing candidates for assessment

We collect and prepare the statistics in course reports before we complete the appeals process.

Statistical and grade boundary information

Course entries

Number of resulted entries in 2025: 7,010

Number of resulted entries in 2026: 6,660

Distribution of course awards (including minimum mark to achieve each grade)

Course award	Number of candidates	Percentage	Cumulative percentage	Minimum mark required
A	2,175	32.7	32.7	105
B	1,361	20.4	53.1	89
C	1,246	18.7	71.8	74
D	1,010	15.2	87.0	58
No award	868	13.0	100	Not applicable

We've not applied rounding to these statistics.

In this report:

- 'Most' means greater than or equal to 70%.
- 'Many' means 50% to 69%.
- 'Some' means 25% to 49%.
- 'Few' or 'a few' means less than 25%.

You can find [statistical reports](#) on our website.

General commentary on grade boundaries

Our main aim when setting grade boundaries is to be fair to candidates across all subjects and levels, and to maintain comparable standards across the years, even as arrangements evolve and change.

For most National Courses, we aim to set examinations and other external assessments and create marking instructions that allow:

- a competent candidate to score a minimum of 50% of the available marks (the notional grade C boundary)
- a well-prepared, very competent candidate to score at least 70% of the available marks (the notional grade A boundary)

It's very challenging to get the standard on target every year, in every subject, at every level. Therefore, we hold a grade boundary meeting for each course to bring together all the information available (statistical and qualitative) and make final decisions on grade boundaries based on this information. Senior Qualifications Scotland staff normally chair these meetings.

Principal assessors use their subject expertise to evaluate the performance of the assessment and propose suitable grade boundaries based on the full range of evidence. We can adjust the grade boundaries as a result of the discussion at these meetings. This allows the pass rate to be unaffected in circumstances where there is evidence that the question paper or other assessment has been more, or less, difficult than usual.

- We can adjust the grade boundaries downwards if there's evidence that the question paper or other assessment has been more difficult than usual.
- We can adjust the grade boundaries upwards if there's evidence that the question paper or other assessment has been less difficult than usual.
- If levels of difficulty are comparable to previous years, we maintain similar grade boundaries.

Every year, we evaluate the performance of our assessments in a fair way, while ensuring standards are maintained so that our qualifications remain credible. To do

this, we measure evidence of candidates' knowledge and skills against the national standard.

For full details of the approach, please refer to the [Awarding and Grading for National Courses Policy](#).

How the course assessment performed

Question paper 1: multiple choice

Question paper 1 performed as intended.

Question paper 2

Markers commented that question paper 2 was fair and balanced. However, one question was more demanding than intended. We considered this when setting grade boundaries.

Assignment

The assignment performed as intended.

How candidates performed

Areas where candidates performed well

Question paper 1: multiple choice

Most candidates successfully:

Question 1	identified the type of organisation of DNA in a nucleus, chloroplast and mitochondrion
Question 5	identified why natural selection is faster in prokaryotes in terms of gene transfer
Question 8	named the location of fermentation and stated how much ATP is used and produced
Question 13	stated that migration is used to avoid metabolic diversity
Question 14	identified the domains of life in which micro-organisms are found
Question 16	calculated an increase in cell number from a microbial growth curve on a semi-log graph
Question 19	compared livestock and crop production in terms of energy and trophic levels
Question 21	named indicators of poor animal welfare
Question 22	identified an example of social defence
Question 23	selected information from a bar graph

Many candidates successfully:

Question 2	identified the correct statements about the effects of an insertion mutation
Question 3	identified possible mature transcripts after alternative RNA splicing
Question 4	identified an example of disruptive selection
Question 6	identified the description of phylogenetics
Question 10	identified the dependent variable
Question 15	identified the bacterial growth phase, when secondary metabolites are produced, and an advantage to the bacteria
Question 17	calculated a viable cell count from haemocytometer results
Question 18	identified the combination of restriction endonucleases that would produce a given number of fragments of DNA
Question 24	identified variables to control to increase validity
Question 25	identified the sample site with the highest species diversity

Question paper 2

Most candidates successfully:

Question 1(a)(i)	stated the double helix shape of DNA
Question 1(a)(ii)	identified where the phosphate is on a DNA nucleotide
Question 1(d)	calculated how many times greater the rate of replication is in prokaryotic cells compared to eukaryotic cells
Question 2(a)(ii)	identified the hydrogen bonds in tRNA
Question 3(a)(iv)	stated an ethical reason for using stem cells rather than embryonic stem cells

Question 3(b)(i)	selected information from a graph with two y-axes
Question 4(a)(ii)	identified allopatric speciation
Question 4(a)(iii)	described how to prove two populations are the same species
Question 4(c)(i)	calculated a percentage decrease
Question 5(a)	identified substances in the citric acid cycle
Question 5(d)(i)	stated the conditions for fermentation
Question 6(a)(i)	named the hypothalamus as the temperature monitoring centre
Question 7(b)	named ligase as the enzyme used in recombinant DNA technology
Question 8(b)	stated the copper sulphate concentration of the control
Question 11(a)(i)	identified the independent variable
Question 11(b)	drew a line graph
Question 12(a)	identified inbreeding
Question 13(a)	identified biological control
Question 13(c)(i)	calculated a ratio from a graph

Many candidates successfully:

Question 1(b)(i)	stated why replication of the leading strand in DNA replication requires only one primer
Question 1(b)(ii)	gave the base sequence of a primer
Question 1(c)	named an enzyme involved in DNA replication and stated its function
Question 2(a)(i)	named regions of a tRNA molecule
Question 3(b)(ii)	calculated a percentage from a line graph

Question 3(b)(iii)	selected information from a line graph with two <i>y</i> -axes
Question 4(a)(i)	explained the importance of isolation barriers in speciation
Question 5(d)(ii)	named the products of fermentation
Question 6(b)	described corrective responses in thermoregulation
Question 7(a)	explained why the same restriction endonuclease must be used to remove a gene and open a plasmid
Question 10(a)(i)	calculated a difference
Question 10(b)	named substances in the carbon fixation stage of photosynthesis
Question 13(b)(i)	suggested why populations of native species decrease after another species is introduced

Assignment

Most candidates successfully:

Section 2	provided an aim that described the purpose of the investigation
Section 3(a)	wrote a brief summary of the approach used to collect experimental data
Section 3(b)	selected sufficient data
Section 3(d)	selected a relevant internet or literature source
Section 4	drew a graph
Section 8	produced a clear and concise report with an informative title

Many candidates successfully:

Section 3(c)	presented data in a correctly produced table
Section 3(e)	cited and referenced a source of internet or literature data

Areas where candidates did not perform well

Question paper 1: multiple choice

Some candidates successfully:

- | | |
|-------------|--|
| Question 7 | calculated a percentage from a line graph to identify the correct red blood cell number |
| Question 9 | predicted from a line graph |
| Question 12 | identified a type of dormancy and behaviour from a graph of metabolic rate and air temperature |
| Question 20 | calculated an average increase |

Few candidates successfully:

- | | |
|-------------|---|
| Question 11 | calculated the metabolic rate of a human from measurements in a calorimeter |
|-------------|---|

Question paper 2

Some candidates successfully:

- | | |
|--------------------|---|
| Question 3(a)(i) | described cell differentiation |
| Question 3(a)(ii) | used information from a diagram to explain why the stem cells shown are tissue stem cells |
| Question 3(a)(iii) | stated why the method used is an example of a therapeutic use of stem cells |
| Question 4(b) | explained how natural selection leads to an increase in the frequency of alleles that increase survival |
| Question 4(c)(ii) | predicted using values in a table |
| Question 6(a)(ii) | described how information is communicated from the hypothalamus to effectors |

- Question 6(d) identified negative feedback as the mechanism used by humans to achieve homeostasis
- Question 8(d)(i) selected information from a graph and used it to select information from a second graph
- Question 11(a)(ii) identified a variable that should be controlled in a field trial so that a valid conclusion can be made
- Question 11(c) stated a conclusion for data that included a change point
- Question 12(c)(ii) explained why F_1 are not usually bred together
- Question 13(c)(ii) predicted from a line graph with two y -axes
- Question 13(c)(iv) used evidence from a graph of populations to justify why a species is invasive

Few candidates successfully:

- Question 7(c) explained how a selective agent can be used to select bacteria with a selectable marker gene
- Question 10(c)(i) explained why the concentration of RuBP remains constant when plants are exposed to light
- Question 10(c)(ii) explained why the concentration of 3PG increases when plants are in darkness
- Question 12(c)(i) stated 'vigour' as a term to describe improved characteristics

Assignment

Some candidates successfully:

- | | |
|-----------|---|
| Section 5 | analysed their data by providing a valid comparison or an appropriate calculation |
| Section 6 | stated a valid conclusion that relates to the aim and is supported by all of the data |
| Section 7 | evaluated the experimental procedures, results and internet or literature data |

Preparing candidates for assessment

Question papers

Candidates generally prepare well for the question papers.

Candidates tend to show good knowledge and understanding of areas including:

- structure and organisation of DNA
- structure of tRNA
- gene transfer in prokaryotes and eukaryotes
- ethics of stem cell use
- phylogenetics
- fermentation
- migration
- domains of life of micro-organisms
- restriction endonuclease and restriction site
- crop and livestock production
- indicators of poor animal welfare
- social defence

You should ensure that candidates understand the following, more demanding, areas:

- describing cell differentiation in terms of genes being expressed
- describing therapeutic uses of stem cells by referring to repairing damaged organs
- describing natural selection by referring to best adapted surviving and passing favourable alleles to offspring
- describing how information is communicated from the hypothalamus to effectors as electrical impulses through nerves
- naming negative feedback as the mechanism by which homeostasis is achieved
- explaining how the Bt toxin gene can result in an increase in crop growth by reducing damage to leaves by pests, thereby increasing the rate of photosynthesis

- explaining how carotenoids help aquatic algae grow under surface plants by absorbing wavelengths of light not absorbed by the plants above
- explaining how light results in the concentration of RuBP remaining constant as 3PG is converted to G3P, which is converted to RuBP, while RuBP is converted to 3PG
- explaining why the concentration of 3PG increases in darkness as there is no ATP to phosphorylate 3PG or hydrogen ions to combine with 3PG to form G3P
- describing inbreeding depression as an accumulation of homozygous, recessive, deleterious alleles
- naming 'vigour' as a term to describe improved characteristics in offspring
- explaining why F₁ hybrids should not be bred together as the F₂ shows too much variation
- using evidence to explain why a species is considered to be invasive

Candidates tend to prepare well for skills questions on:

- identifying the independent and dependent variables
- selecting information from a bar graph, semi-log graph and a graph with two y-axes
- using values to describe changes in a line graph
- identifying a control experiment
- calculating a simple whole number ratio
- calculating a percentage decrease
- calculating how many times greater

However, many candidates have difficulty with skills questions on:

- making a prediction from a table or line graph
- calculating an average increase
- calculating the metabolic rate of a human from calorimeter measurements
- identifying a variable to be kept constant in a field trial so that a valid conclusion could be made
- stating a conclusion where the results have a change point
- selecting information from a line graph and using it to select information from a second line graph

You should give candidates practice in these types of questions from past papers and other appropriate sources. Candidates should assess themselves using the past paper marking instructions to ensure that they are answering to the required standard.

Some areas from the course specification have not been assessed recently and, as a result, do not feature in recent past papers. You should make sure candidates understand that they should not rely solely on past papers when preparing for the question papers. They should be prepared to answer questions on the mandatory knowledge and understanding in the course specification.

Assignment

The materials on the [Understanding Standards website](#) are a useful resource to prepare for the assignment. Candidates can use these with the marking instructions in the [Higher Biology Assignment Assessment Task](#).

Candidates generally prepare well for the assignment. They tend to do well with stating a clear aim, drawing the graph and producing a report with a clear and concise structure and an informative title that refers to the independent and dependent variables.

The following advice refers to specific sections of the assignment.

Aim

When writing the aim, candidates should refer to the independent and dependent variables, specifying what is being changed and what is being measured. If they indicate a specific substance or enzyme in the aim, then they need to refer to it in subsequent sections, including the internet or literature source.

Data collection and handling

Summary

Candidates should state how they changed the independent variable and name any key chemicals. They should not include volumes, concentrations, or temperatures in the summary, unless they refer to the independent variable. Candidates must

describe how they measured the dependent variable, for example a stopwatch to measure the time for a disc to rise or a ruler to measure the height of foam.

Data presentation

The table candidates produce must contain clear headings, units, and correctly calculated averages. If candidates use a chemical for the independent variable, they must name it in the table. The column of average results must have an appropriate heading. This can be a heading overarching the individual results and the averages. Candidates must not construct a pre-populated table in the research stage. They must calculate the averages and write the headings in the report stage.

Data from an internet or literature source

Candidates should be prepared to cite and reference the internet or literature source correctly. They should not give the reference alongside the data. This is not acceptable at Higher level. Candidates should cite the data and provide a full reference (including the date accessed for internet sources) at the end of the report.

Candidates should provide a statement describing the relevance of the internet or literature data, as it is not always obvious.

Analysis

When analysing the results with a comparison or calculation, candidates should state the values of the independent variable between which they have made the calculation or comparison. In many cases, candidates achieve the mark by doing an appropriate calculation, but they should also make a statement linking the results of the calculation to the aim.

If candidates give a comparison, they should compare the data from both sources between the values of the independent variable that the two sources have in common. If the independent variable is discrete, candidates should compare the common values, for example, the sugars that were common to both sources.

Conclusion

You should remind candidates that they should refer to the aim when stating their conclusion. They should state a conclusion that relates clearly to the aim and is supported by both sets of data. Candidates should state a concise conclusion that relates to the aim and not provide an expanded description of the results. Candidates should state a conclusion from results if there is a change in the trend as, in many cases, either the experimental or internet or literature results show this. If the independent variable is discrete, candidates should rank the results for both sources of data.

Evaluation

In the evaluation section, candidates should provide justifications for evaluative statements relating to evaluative procedures. For example, if a candidate states that temperature should be controlled with a water bath, they should state why this is important. You should make sure candidates understand how to use the terms 'validity' and 'reliability' correctly. If candidates find this difficult, you can advise them not to use these terms. When referring to the reliability of their own experimental results, candidates should refer to variability or concordance in values.

You should make sure candidates know not to evaluate the robustness of the internet or literature source, as this will not gain them any marks. Candidates can evaluate the reliability of the internet or literature data, for example, they could describe internet or literature data as unreliable if it was not repeated or did not include average results.

Structure

Candidates should include a heading that refers to both the independent and dependent variables.

Changes to the course assessment from session 2026–27

- Replaced question paper 1 and question paper 2 with a single question paper that has two sections:
 - Section 1 has multiple-choice questions worth 20 marks.

- Section 2 has restricted-response questions and extended-response questions worth 80 marks.
- New question paper is worth 100 marks in total and lasts 2 hours and 30 minutes.
- Assignment is still worth 20 marks, and we'll scale this to 25 marks instead of 30.
- We've removed 'Appendix 2: question paper brief' and published this as a separate document.

We've amended the question paper details in the course specification. There's no change to teaching and learning. You might want to update your assessments, for example prelims, to reflect the changes to the question paper.