

Course report 2026

Advanced Higher Biology, SCQF level 7

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: 3,125

Number of resulted entries in 2026: 3,109

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

Course award	Number of candidates	Percentage	Cumulative percentage	Minimum mark required
A	612	19.7	19.7	98
B	720	23.2	42.8	83
C	723	23.3	66.1	69
D	650	20.9	87.0	54
No award	404	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

The question paper had the appropriate balance of questions to test knowledge, understanding, and skills. It contained questions that most or many candidates answered correctly, as well as an appropriate proportion of questions that were more challenging.

Feedback from the marking and examining teams indicated that the question paper was fair, balanced and accessible.

Question 12 contained a choice of extended writing. Option B (the vertebrate eye) was more popular than option A (sodium-potassium pump), though the mean mark for both options were similar.

Section 1 of the question paper performed as intended and section 2 was more challenging than intended. We took this into account when setting grade boundaries.

Project

The project performed as intended, allowing candidates to investigate a wide variety of topics and carry out novel and interesting work.

How candidates performed

Areas where candidates performed well

Question paper

Candidates achieved a wide range of marks for the question paper. Most candidates demonstrated a broad knowledge of the course content and attempted all, or most, of the questions.

Most candidates performed best in questions that required them to demonstrate knowledge by giving terms or making relatively simple statements based on the mandatory knowledge.

Most candidates performed well in questions that had an element of choice. Many candidates performed strongly in extended-writing questions, which effectively differentiated candidates.

Many candidates demonstrated competence in a wide range of skills, including processing, planning and suggesting improvements to experimental design.

Section 2: structured responses

Questions 5(a) and (b) Most candidates demonstrated good knowledge and understanding of the principles of the cell cycle and the role of microtubules in mitosis. Some candidates referred to mitosis instead of meiosis II when describing the separation of sister chromatids.

Question 8 Many candidates answered this short extended-response question on genetic drift well. A few candidates appeared to draw on generic approaches to extended-writing questions, which meant they did not fully answer the question asked.

Question 9(d) Most candidates demonstrated knowledge of the characteristics of r-selected species. Some candidates compared r-selected and K-selected strategies, which was not what the question asked.

Question 10	Many candidates answered this experimental design question well. They demonstrated a good knowledge of the ethics of animal studies, the selection of a control group, and planning and improvement of experimental design.
Question 11	Many candidates demonstrated a good knowledge of parasitism and applied this to the novel concept of the shiny cowbirds.
Question 12	Many candidates performed well in the extended-response questions. Question 12 differentiated candidates well.

Project

Section 3: procedures

Most candidates expressed their protocol well, clearly identifying how they changed the independent variable and measured the dependent variable. Most candidates wrote their descriptions in the past tense and impersonal voice. Most candidates described the work they did for their pilot well. A few candidates did not conduct meaningful pilot studies that allowed them to adequately describe how the pilot study informed the development of their final procedure. Most candidates used procedures that showed complexity, creativity or accuracy. However, a few candidates who did not gain this mark produced work that was not suitably complex for this level.

Section 4: results

Most candidates processed and presented their results adequately. A few candidates claimed a greater degree of accuracy in their results tables than in their raw data. A few candidates did not summarise the results of replicates 1 and 2 in an overall table before producing a final graph.

Areas where candidates did not perform well

Question paper

Many candidates did not perform strongly in questions that asked them to demonstrate a greater degree of reasoning or understanding by applying their knowledge to new or unfamiliar contexts.

Many candidates did not perform well in questions that required them to provide a single term or phrase, or general descriptions from the mandatory course knowledge.

Many candidates did not perform well in questions relating to the key areas of investigative biology, particularly understanding data, or questions that asked them to draw conclusions from tables and graphs.

Some candidates demonstrated limited knowledge of the course content by giving few correct responses, which suggests that they did not prepare adequately for the assessment. Some candidates gave no response to many or most questions.

Some candidates' literacy skills affected their ability to express themselves clearly and concisely, which caused them to miss out on marks.

Section 1

Question 6	Few candidates applied their knowledge of diffusion to the graphs.
Question 8	Some candidates treated the range bar on the box plot as if it were an error bar.
Question 20	Some candidates did not apply their knowledge of investigative biology to the statements.

Section 2

- Questions 1(b) and (c) Many candidates demonstrated that they understood the context of the data-handling question. However, some candidates did not communicate their responses clearly enough, particularly when a comparative statement was required. As a result, they missed out on marks.
- Question 2(b)(i) A few candidates correctly described the hydrophobic interactions between the hydrophobic R-groups and the hydrophobic region of the plasma membrane.
- Question 2(b)(ii) A few candidates linked the lack of vesicles with the bone tissue cells holding together.
- Question 3(a)(iii) Many candidates did not apply their knowledge to the figure provided and did not relate their response to the context shown.
- Question 3(a)(iv) A few candidates correctly identified that the control line was a positive control.
- Question 4(a)(ii) Most candidates did not describe the role of G-proteins. Many candidates described full signal transduction pathways beginning with extracellular events.
- Question 5(c) A few candidates answered this question from the perspective of the G1 checkpoint, although the figure shows there is no cyclin B in the cell at this time.
- Question 6(a)(i) Many candidates did not describe how an inhibitor binding to an allosteric site changes the shape of the active site.
- Question 6(a)(iii) Many candidates answered this question from the viewpoint of the ants rather than the viewpoint of the pitcher plant.

Question 6(b)(ii)	Many candidates did not explain the concept of phylogenetics well or how it can be used as evidence of evolution.
Question 7(b)	Few candidates stated that a statistically significant result is one that is unlikely due to chance. Many candidates did not articulate that the confidence interval for England was below the dashed line and so it was unlikely that the population of bats there had changed.
Question 9(a)	A few candidates missed out on this mark because their definition referred to the reproduction 'of' female gametes rather than reproduction 'from' female gametes.
Question 10(d)(iii)	Most candidates did not explain that a mean is calculated due to the natural variation in a population, or that the individual guppies took different lengths of time to solve the maze.

Project

Section 2: introduction

Some candidates did not address biology fundamental to the topic they studied and presented large amounts of information irrelevant to their aim(s). Candidates must include information in their underlying biology that is relevant to the biological system that they are investigating. Relevance is determined by the aim and the organism investigated. For example, if a candidate is investigating the protein content of milk, their focus should be on why milk contains proteins, the structures of these proteins and the reasons why there may be different protein content in milk from different animals.

Most candidates attempted to justify the project that they were carrying out, though some of these justifications were only tenuously linked to the investigation.

Section 3: procedures

A few candidates did not identify their negative control (removal of independent variable) or state that a negative control would not be possible in their investigation. These candidates did not consider how to control their key confounding variables or monitor the variables they could not control. They did not provide clear measurements of the solutions they used in lab-based practicals or describe the steps they took to minimise variation in groups in human studies.

Section 4: results

Some candidates summarised the findings of their tables and graphs in the results section. They described trends that they observed, identified key turning points in their data, or gave other insights about their results. These candidates should have included these statements in their evaluation of results in the discussion section because they contribute to analysis of the data collected.

Section 5: discussion

When evaluating procedures, some candidates did not include the biological reason for their experimental design choices. Some evaluations did not include evidence of a well-reasoned or investigated pilot study that contributed to changes in the final procedure.

Many candidates did not demonstrate the required critical discussion or level of understanding in their evaluation of results. Candidates who carried out overly simple projects could only offer limited discussion in this section.

When evaluating their results, some candidates did not use the biological knowledge they included in their introductions to support their findings, or introduce a new biological concept to explain unexpected results.

Preparing candidates for assessment

We're changing the Advanced Higher Biology course assessment for session 2026–27. We'll publish additional support materials and announce them in our [Weekly Update](#) newsletter when they're available.

You should make sure you're familiar with the changes.

Question paper

Candidates preparing for assessment should work towards having a sound knowledge and understanding of the mandatory knowledge detailed in the course support notes (appendix 1 of the [Advanced Higher Biology Course Specification](#)). Candidates will have more opportunities to demonstrate their knowledge as future question papers will have more extended-writing questions.

As well as being able to demonstrate knowledge of the mandatory course content, candidates must be able to show understanding and reasoning by applying that knowledge in unfamiliar contexts.

To help candidates understand and process novel information in questions, you should encourage them to read questions carefully and focus their responses on the question asked. Candidates should be careful not to base their responses solely on mandatory knowledge when they also need to use the information in the stem of a question. Candidates should focus on understanding the course content rather than memorising it.

You should encourage candidates to carefully proofread their responses before leaving the exam. Candidates can miss out on marks for using the wrong words when explaining biology terms.

You should give candidates opportunities to develop and practise the range of skills described in the course specification. Candidates should be familiar with data-handling questions and know how to use the information in a supplementary sheet. Candidates must be careful to use the given data, and other information, when required. Candidates can struggle to articulate the meaning of the data provided in the question paper. Further practice can support them to develop these skills.

The question paper can assess the mandatory knowledge in all key areas of investigative biology at any point, and candidates should have a good grasp of this course content to achieve marks in the experimental design questions.

You should give candidates opportunities to practise a variety of questions across all key areas so that they become familiar with the standard required at Advanced Higher level. [Past papers](#), and their associated marking instructions are available on our website.

Project

You should make sure candidates understand your role in helping them choose a topic to investigate. You must follow the instructions on choosing a topic in the [Advanced Higher Biology Project Assessment Task](#) (page 5). In large centres, more than one candidate can investigate a similar topic, but each candidate must carry out all stages of the investigation independently of each other. Candidates from the same centre must have different aims (independent and dependent variables should not match those of another candidate from the same centre).

We've produced a document called *Advanced Higher Biology Project: Possible Investigation Topics* to highlight the differences between a topic and an aim. You can find this under the 'Course support' heading on the Advanced Higher Biology [subject page](#).

You should make sure candidates understand how to use resources, including online resources, to formulate ideas and develop their protocols, in a way that avoids plagiarism. You should encourage candidates to develop these protocols using pilot studies.

Make sure candidates understand their role in preparing a risk assessment for their procedures. (This is explained in the instructions for candidates.) You are responsible for ensuring candidates complete appropriate risk assessments and carry out all work safely. You must comply with all relevant safety and ethical regulations and codes of practice, including those relating to the use of microbiological techniques. For example, candidates should not be opening plates that have been inoculated with bacteria for any reason.

You must also make sure candidates have considered any ethical concerns around the use of human subjects or animals. Candidates should not work with prescription medications, vaping products or cigarettes as part of their project.

Candidates should ensure that the underlying biology is relevant to the biological system they are studying. This ensures that the content of this section is relevant to the aim of the investigation (for example, a study into the vitamin C content of different citrus fruits should focus on the role of vitamin C in these plants rather than scurvy in humans).

Where they use model organisms or systems, candidates should explain the importance of the system they are using in answering any wider question they are studying. You should encourage candidates to ensure that any biological models they use are appropriate to their investigation (for example, it is unlikely that eggshells will be an appropriate model for human teeth).

You should discourage candidates from copying large chunks of text word-for-word in their account. The underlying biology should be at an appropriate depth to support section 5 (discussion (conclusion(s) and evaluation)) as candidates must link their findings back to this section. You should remind candidates that they do not need to limit themselves to theory covered in the Advanced Higher Biology course.

You should remind candidates to use the past tense and imperative voice when writing the description of procedures in their report. They must avoid giving a set of instructions. The description of procedures must have sufficient detail to allow the investigation to be repeated. You should encourage candidates to make full use of the questions about writing procedures in the instructions for candidates so that they cover the necessary information, including the controls that they used; how they controlled confounding variables; the sample size they used; how they achieved independent replication; and how the pilot study or studies informed the final procedure.

Candidates must include their raw, unprocessed data in the report. You should encourage candidates to use interesting and informative graphical presentations to display and discuss their data.

Candidates must combine data from replicates to present summarised data in a graph supported by an appropriate table, but they are not limited by this. Processing and presenting data in additional ways might provide scope for candidates to further analyse and evaluate their results.

Candidates who create computer-generated graphs must ensure the scales, labels and plots are appropriate for the presentation and analysis of scientific data. They should ensure that all graphs are of a suitable size to allow markers to easily observe data and trends. Make sure candidates know they should discuss trends and findings further in section 5 (discussion (conclusion(s) and evaluation)).

Make sure candidates understand the difference between explaining and describing. When evaluating procedures, candidates must explain why they have designed their experiment in the way they have, rather than just describing what they did. They should provide rationale and justification for choices they have made throughout the process. Where possible, candidates should provide a biological justification for the choices that they have made in their experimental design.

Candidates should use the questions in the instructions for candidates to address all the points in the marking instructions and make sure they have supported their discussion with appropriate justification. You should make candidates aware that not every bullet point will apply to every investigation type.

When evaluating their results, candidates should use the instructions for candidates to address all the required aspects. Investigations that are too simple may not offer much scope for discussion in this section.

Candidates should use an analysis of the variation between repeats and replicates to support discussion about whether variability is due to error in laboratory practice, intrinsic variation in the biological samples studied, or the treatments that they have planned. Candidates should describe the trends in their data and explain why the results support the conclusions that they have drawn. You should encourage candidates to include all discussion of their trends in this section.

Some candidates provide additional calculations to support their findings, including standard deviation, percentage changes, or standard error. Statistical analysis is not mandatory, but it can support candidates when analysing their results. If candidates use statistics, they should have a good understanding of the statistic that they are using so that they do not make errors in interpretation. Candidates should only make claims of statistical significance when the statistical test they use supports this.

To achieve marks for interpreting their results, candidates need to go beyond stating trends and address how their procedures impact on the meaning of trends and findings. Candidates can find it difficult to interpret results that do not match their hypothesis and/or previous findings. In these cases, candidates should try to distinguish between the effects of methodological weaknesses and treatments that have no effect.

Candidates who include the most relevant and useful information in their introduction give the most meaningful discussion of findings in relation to the underlying biology and related research. Candidates can introduce a new biological concept at this stage of their report if it supports the discussion of their findings.

You should encourage candidates to structure their reports using the sections in the instructions for candidates. Candidates should check that the headings and page numbers in the contents page of the final version of their report are accurate.

Candidates should follow the instructions for candidates exactly when citing and listing references and provide full references for online journal articles.

You should advise candidates not to exceed the maximum word count for the report.

Changes to the course assessment from session 2026–27

- Reduced the question paper from 100 marks to 85 marks — scaling no longer applies. (Section 1 still has 20 marks, and Section 2 has 65 marks instead of 80.)
- Question paper now represents 70% of the overall marks for the course assessment.
- Reduced the duration of the question paper from 3 hours to 2 hours and 30 minutes.

- Project still has 30 marks — scaled to 37 marks instead of 40 — and represents 30% of the overall marks for the course assessment.
- Table in the ‘Course assessment structure: project’ section provides further detail in the ‘Expected response’ column.

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.