Course report 2026

Higher Environmental Science, 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.

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Statistical and grade boundary information

Course entries

Number of resulted entries in 2025: 491

Number of resulted entries in 2026: 297

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

Course award	Number of candidates	Percentage	Cumulative percentage	Minimum mark required
A	48	16.2	16.2	105
B	61	20.5	36.7	90
C	69	23.2	59.9	75
D	66	22.2	82.2	60
No award	53	17.8	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

The number of candidates has decreased, as has the number of centres delivering the course, but performance across all three assessments was at its highest level since 2019.

Question papers

Feedback from teachers and lecturers, including those on the marking team, was positive, and they highlighted no issues with either question paper. Markers commented that candidate performance appeared to have improved on previous years, especially in problem-solving questions.

Some observations across both question papers were as follows:

- The number of ‘no responses’ continues to decrease year-on-year, which is positive. This includes essays, where most candidates attempted both essay questions. However, most ‘no responses’ were for questions requiring recall, that is definitions and descriptions.
- Numeracy skills were much improved, with most candidates achieving at least partial marks in calculations.
- Candidates appeared to have a better understanding of command words.
- Candidates struggled with recall-type questions, especially definitions. They are not required to provide word-for-word definitions from the glossary but should be able to convey the essence of those definitions.
- Responses were often too brief, with candidates not providing sufficient explanation or justification to gain the mark(s).
- Some issues mentioned in previous course reports still need attention. These include candidates using National 5-level language; limited understanding of basic environmental science concepts and skills; illegible handwriting; and loss of marks due to avoidable errors, such as omitting units in calculations or not rounding the answer in a calculation to the required precision.

Question paper 1

Question paper 1 is a case study that focuses on an application of environmental science. It has an intentional problem-solving focus and includes a relatively high proportion of A-type marks.

All questions performed as intended and we did not make any adjustments to grade boundaries.

Question paper 2

Question paper 2 followed the same format as question papers in previous years.

All questions performed as intended and we did not make any adjustments to grade boundaries.

Assignment

The range of topics covered appears to have been much narrower than in previous years. Many of the topics revolved around practical activities demonstrated at SSERC environmental science workshops. Although some of the SSERC practicals are more relevant to National 5 Environmental Science, they are acceptable at Higher level, provided that the underlying science links to Higher course content.

Candidates continue to miss marks due to avoidable errors, such as errors in tabulation and calculations. To continue improving marks, candidates would benefit from more guidance, support, and practical experience before undertaking the assignment. You should ensure that candidates are familiar with the requirements set out in the 'Instructions for candidates' section of the Higher Environmental Science Assignment Assessment Task (which is available under the 'Coursework' heading on the subject page) before starting their assignment. It would also be beneficial for candidates to read the course report(s) to gain a better understanding of areas where previous candidates did not perform well and how to apply the advice to their own report.

How candidates performed

Areas where candidates performed well

Question paper 1

Question 2	Explaining the impact that reduced light penetration will have on primary productivity in oceans Many candidates successfully explained the impact of reduced light penetration, firstly on photosynthesis and then on productivity.
Question 3(a)(i)	Calculating the maximum mass of sediment discharged by the robot collector over 24 hours Many candidates gained both marks.
Question 3(a)(ii)	Suggesting one reason why the company's estimated collection rate may not be realistic Many candidates suggested an appropriate reason.
Question 3(b)(i)	Naming the Environmental Impact Assessment (EIA) process Many candidates correctly named the process, although a notable number of candidates did not attempt the question.
Question 3(b)(ii)	Describing what is meant by 'mitigation' Most candidates correctly described what is meant by mitigation.
Question 3(b)(iii)	Explaining what is meant by 'high species richness but low species density' Most candidates explained this finding appropriately.

Question 3(b)(v) Describing a possible ecological impact resulting from nodule collection

Many candidates successfully described an impact.

Question 4 Suggesting why the current supply of cobalt is classed as moderate risk, and nickel and copper as low risk

Many candidates successfully extracted information from the supplementary booklet to make a valid suggestion.

Question 5 The decision-making question

This question is intended to be challenging, requiring candidates to draw together multiple strands of information and to apply their own knowledge.

Many candidates successfully justified their chosen option and gained 3 to 5 marks.

Question paper 2

Question 1(b) Drawing a line graph

Most candidates gained 2 or 3 marks for completing the graph. The most common error was plotting an incorrect point or incorrect points, or extending the line to 0 on the y-axis, which should not be plotted unless 0 is included in the table.

Question 1(c)(iii) Identifying the term ‘carrying capacity’ from the definition provided

Many candidates stated the term correctly, but a notable number of candidates did not attempt the question.

Question 1(c)(iv)	Suggesting a reason for the change in grey wolf population Most candidates suggested a valid reason for the change.
Question 1(c)(v)	Suggesting why the beaver population has increased Many candidates suggested a valid reason for the increase.
Question 1(d)	Explaining why disturbance caused by elk may benefit some species A wide range of valid explanations was accepted, with most candidates gaining 1 or 2 marks.
Questions 2(b)(ii) (A) and (B)	Suggesting an advantage and disadvantage of using sewage sludge as a fertiliser Most candidates stated a valid advantage and many candidates stated a valid disadvantage.
Question 2(b)(iv)	Naming the environmental agency with responsibility for monitoring discharges to the water environment in Scotland Many candidates named SEPA as the responsible agency.
Question 2(b)(v)	Stating an anthropogenic source of increased carbon dioxide emissions Most candidates stated a valid anthropogenic source.

Question 2(c)(ii)	Identifying the term ‘biomagnification’ from the definition provided Most candidates identified the term, but a notable number of candidates did not attempt the question.
Question 3(b)(i)	Suggesting an environmental impact associated with the importation of resources from abroad Most candidates suggested a valid environmental impact.
Question 3(b)(ii)	Explaining how a change in global oil prices could influence supply and demand of oil in Guinea Bissau Many candidates applied their knowledge of current affairs in the Middle East and how these affect supply and demand of oil. Consequently, a wide range of responses was accepted.
Question 3(c)	Suggesting a social impact associated with growing more crops on a commercial scale Most candidates provided an acceptable suggestion.
Question 3(d)(i)	Calculating a simple whole number ratio Most candidates successfully calculated the ratio.
Question 3(d)(ii)	Suggesting why growing cashews in Guinea Bissau is more sustainable than growing pistachios Many candidates provided an acceptable reason.
Question 4(a)(i)	Naming the type of plate boundary Most candidates identified the plate boundary as being constructive/divergent.

Question 4(b)(iii)	Calculating an interquartile range (IQR) Most candidates successfully calculated the IQR.
Questions 5(a)(i) and (ii)	Describing how a named human activity may contribute to changes in the composition of Earth's atmosphere Suggesting a possible environmental consequence of the change Many candidates gained 2 marks for their description and 1 mark for the follow-on question. However, a notable number of candidates did not attempt either question.
Question 5(c)(i)	Calculating the energy density of biopropanol Many candidates successfully calculated the energy density and gained 2 marks. The most common error was including an incorrect unit; candidates frequently copied the unit included in the table incorrectly.
Question 6(b)(i)	Stating the main type of mining used to extract bauxite Most candidates correctly stated open cast/strip mining.
Question 6(b)(ii)	Explaining an environmental issue with mining bauxite ore Many candidates provided a suitable explanation of an environmental issue.

Questions 6(c)(i) and (ii)	Stating one advantage and one disadvantage of using geothermal energy Most candidates stated one valid advantage and one valid disadvantage of using geothermal energy.
Questions 8(a)(i), (ii), and (iii)	Suggesting one social, one economic, and one environmental benefit of using microchip-based systems in a modern house Most candidates provided a valid suggestion of an economic benefit and a valid suggestion of an environmental benefit, but fewer candidates gave a valid suggestion of a social benefit.
Question 8(b)(i)	Suggesting a factor that may disrupt the global supply chain Most candidates gained the mark, with many referring to current global conflicts.
Question 8(b)(ii)	Calculating the global revenue from microchips Many candidates successfully calculated the global revenue.
Question 8(b)(iii)	Suggesting whether investment in microchips would be worthwhile Many candidates provided valid justification for their yes/no response.
Question 8(b)(iv)	Calculating the % CAGR Most candidates gained 1 to 2 marks for this calculation, although a notable number of candidates did not attempt the question. The most frequent

errors included selecting the wrong data from the table or including '-1' in the square root calculation.

Assignment

1 An aim that describes clearly the purpose of the investigation

Most candidates provided an aim that described the purpose of the investigation. Where aims were clear and simple, candidates often performed well in dependent sections, such as analysis and conclusion.

Some candidates appeared unsure whether they were undertaking one or two experiments, and this only became obvious later in the report. You should ensure that candidates are clear about the aim(s) of their investigations before starting the practical work.

2 An account of environmental science relevant to the aim of the investigation

Candidates' accounts of the underlying science improved markedly, with many candidates gaining 2 to 3 marks.

3(b) Sufficient raw data from the candidate's experiment/fieldwork

Most candidates provided sufficient raw data from their experiment(s) or fieldwork investigations, including repeat measurements.

There was a noticeable decrease in the number of candidates presenting multiple sets of often irrelevant data, for example, data from a field trip where several investigations were carried out. By including extraneous data, candidates risk losing marks because all data in the report should be correctly tabulated and discussed in the analysis and conclusion sections. The improvement suggests that candidates and/or teachers and lecturers have taken on board advice from previous course reports.

3(d) Data or information relevant to the experiment/fieldwork investigation obtained from an internet/literature source, or data relevant to the aim from a second experiment/fieldwork investigation

Most candidates provided relevant data and/or information from an internet or literature source, or a second experiment/fieldwork investigation.

Although less prevalent than in previous years, some candidates provided only a URL to their second source of data. You should advise candidates that they **must** include the actual data from the source and not just a URL, especially since this affects subsequent sections such as analysis and conclusion.

4(a) An appropriate format from the options of bar graph, line graph, scatter graph, pie chart, or other display method appropriate to environmental science

Most candidates used an appropriate graph format to display their data. The majority of graphs were hand drawn, which is appropriate provided that candidates use suitable graph paper.

You should provide candidates undertaking a soil texture investigation with triangular/isometric graph paper that includes both major and minor gridlines, but no scales or labels.

4(b) The axis/axes of the graph has/have suitable scale(s)

Most candidates produced a graph with suitable axis/axes scale(s).

4(c) The axis/axes of the graph has/have suitable labels and units

Most candidates produced a graph with suitable labels and units.

4(d) Accurately plotted data points and a line (line graph) or clear bar tops (bar graph) or angles (pie chart) or a line of best fit (scatter graph)

Most candidates produced a graph with accurately plotted data points.

8 A clear and concise report with an informative title

Most candidates produced a clear and concise report with an informative title.

Areas where candidates did not perform well

Question paper 1

Question 1	Stating the energy change that occurs as a result of an extra-terrestrial impact Most candidates did not state the energy change, and a notable number of candidates did not attempt the question.

Question paper 2

Question 1(a)	Defining ‘rewilding’ Most candidates did not adequately define rewilding. Responses often referred to a rewilding practice, such as creating wildlife corridors, rather than defining rewilding.
Question 1(c)(i)	Describing what is meant by a ‘heterotroph’ Many candidates did not describe this feeding relationship.
Question 1(e)	Suggesting two rewilding practices Many candidates suggested one rewilding practice, but only some candidates suggested two. A notable number of candidates did not attempt the question. A list of rewilding practices is included in the course specification.
Questions 2(a)(i) and (ii)	Identifying process X and substance Y Many candidates did not name the process and/or substance. The stages of the sewage treatment process are described in the course specification.

Question 2(b)(i)	Calculating the mass of sludge required to produce the maximum number of pellets a year Many candidates either did not calculate the mass correctly or did not round their calculated value to the nearest thousand tonnes, as the question instructed.
Question 2(b)(iii)	Stating what is meant by ‘anaerobic digestion’ Some candidates provided an appropriate definition of anaerobic digestion. Common mistakes included not mentioning the required absence of oxygen and/or the use of bacteria. A notable number of candidates did not attempt the question.
Question 2(c)(i)	Explaining why release of microplastics from wastewater treatment can be considered as an example of both point and diffuse pollution Many candidates did not differentiate between point and diffuse pollution in this context, and either gained 0 marks or did not attempt the question.
Question 4(a)(ii)	Explaining the formation of convection currents within the mantle Most candidates gained 0 or 1 mark, and a notable number of candidates did not attempt the question. Questions can be asked about convection currents in the atmosphere, oceans, or geosphere, with the same basic processes (relating to temperature and density) occurring in each context.

Question 4(b)(ii)	Suggesting how the presence of micro-organisms at hydrothermal vents helps to support species richness Many candidates did not communicate the importance of micro-organisms as an energy source that supports the marine food web.
Question 4(b)(v)	Describing the process of stratified random sampling Most candidates did not describe this process.
Question 5(b)(i)	Stating what is meant by a ‘processed biofuel’ Most candidates did not provide an appropriate definition of a processed biofuel, typically omitting reference to industrial processing.
Questions 5(b)(ii) and (iii)	Suggesting why some people claim that processed biofuels do not change the composition of the atmosphere Suggesting a reason why the claim may not be true Few candidates provided an acceptable description of carbon neutrality, although more candidates provided an appropriate reason why the claim of carbon neutrality may not be true.
Questions 5(c)(ii)	Evaluating the validity of the student’s experimental design Although not all Higher Environmental Science candidates will have undertaken the experiment shown in the question, they should be familiar with validity, accuracy, reliability, and precision in the context of their assignment. Many candidates did not apply this knowledge to their response to this question.

Question 6(a)	Stating the type of soil found in tropical areas around the Equator that can be rich in aluminium ore Few candidates stated laterite. Candidates frequently referred to red earth and red mud, but neither was accepted as a valid response. Laterite and red earth differ in their composition and formation processes. Laterite is a specific type of soil that forms due to extreme chemical weathering of parent rocks in tropical climates with abundant rainfall. Leaching removes silica, leaving a soil rich in iron oxides and aluminium oxides. In contrast, red earth is a general term for soils that develop in warm, temperate climates with moderate rainfall. Weathering and leaching expose the iron compounds but are insufficient to leach out silica. Red mud is an iron oxide-rich waste product from industrial processing of bauxite ore to release aluminium using the Bayer method.
Question 7(a)(i) and (ii)	Describing the process of steam methane reforming Describing how gasification and pyrolysis differ from each other Candidates are required to know the four methods of hydrogen production shown in the table. Few candidates described the process of steam methane reforming or explained how gasification and pyrolysis differ. A notable number of candidates did not attempt either question.

Question 7(b)(i)	Recognising the term ‘strategy’ from the description provided Few candidates provided the correct term. A notable number of candidates did not attempt the question.
Essays	The mean marks for questions 9A and 9B were similar. The mean marks for questions 10A and 10B were also similar. Overall, the mean marks were higher for questions 10A and 10B than for questions 9A and 9B. A few candidates did not attempt one or both essays.
Question 9	Slightly more candidates selected option A (biodiversity and biotic indices) than option B (primary and secondary productivity, including ecological efficiency). For option A, candidates were asked to select two indices from a choice of three. Most candidates described the method behind their selected indices. Fewer candidates expanded their accounts to include the purpose of the indices and the meaning of the calculated values. For option B, most candidates gave a better account of secondary productivity and ecological efficiency than of primary productivity.
Question 10	More candidates attempted question 10A (water movement processes within the atmosphere) than question 10B (transfer of heat by the global ocean conveyor belt).

For both options, marks could be awarded for appropriate annotated diagrams with accompanying descriptive statements, but few candidates included diagrams.

For option A, most candidates gave a good account of some of the movement processes operating in the atmosphere, with a few candidates successfully discussing all the relevant processes. The majority of candidates provided definitions of the processes and/or described changes in state occurring in each, but often did not expand on basic statements. A notable number of candidates did not read the question carefully and discussed the wider hydrological cycle, despite 'within the atmosphere' being emboldened.

For option B, some candidates successfully described the thermohaline processes occurring in the global transfer of heat, but the majority of accounts lacked sufficient detail.

Assignment

3(a) A brief summary of the approach(es) used to collect experimental work and/or fieldwork data

There was an improvement in the number of candidates providing appropriately brief summaries of their data collection process, but most candidates did not demonstrate the ability to summarise.

Some candidates used devices that display arbitrary scale readings rather than absolute values with units, for example a multi-function soil tester displaying soil moisture as dry/moist/damp/wet or light intensity on a scale of A to G. Such data are only valid for comparative purposes, such as assessing soil moisture across different sites, and are not suitable for calculations.

Where data on an arbitrary scale are collected, it would be good science for the candidate to prepare a calibration curve for the device, but there are some caveats:

- The calibration exercise would have to be carried out by the candidate during the research stage because the centre must not provide calibration data or a curve, and the time required to do this may eat into the research stage; and
- candidates are limited in the materials they can take into the report stage. A candidate may take in a published manufacturer's calibration curve as part of their extracts if one is available for the equipment used. However, candidates may not take in a calibration curve they have prepared themselves in advance, as this would be considered a pre-prepared graph of experimental data. They could, however, treat their calibration data as an additional set of raw data and use it to draw a calibration curve during the report stage.
- It's recognised that multi-function testers that show absolute values (and units) for all parameters may be too expensive for centres to purchase. One compromise would be for candidates to collect data using a device with an arbitrary scale and record the data as displayed. They should then include a statement in the underlying environmental science section explaining that the device does not display (absolute) values with units, and what the scale indicates. For example, a light intensity reading of A indicates no/low light, while G indicates strong light.
- It may be simpler to undertake a laboratory-based investigation instead, for example using the gravimetric method to assess the moisture content of soil.

3(c) Data, including any mean and/or derived values, presented in a correctly produced table(s)

Many candidates did not gain the tabulation mark. Common errors included inappropriate column headings (especially overarching column headings), omission of unit(s) and/or average or derived values, and error(s) in calculating the average or derived value.

You should advise candidates that while use of abbreviations is acceptable, for example CO_2, these must be correct. pH was frequently presented as PH or Ph or ph, which is not correct. PH or Ph is often due to automatic capitalisation in

assignments typed using Microsoft Word, so candidates should be encouraged to check their report and make any necessary amendments before submission.

Calculated means and derived values must be presented in a table. Candidates may present these in additional columns added to the raw data table during the report stage or in a separate table.

3(e) A citation and reference for a source of internet/literature data or information

Although this has improved on previous years, many candidates still did not gain the mark for a citation and reference. This was predominantly due to candidates including the full reference, such as a full URL, within the body of the report instead of a citation.

5(a) Analysis of experimental work and/or fieldwork data

Many candidates did not gain the analysis mark. The analysis should be a detailed discussion of the data, and should include numerical values where appropriate, including the outcome of the extended or statistical calculation.

5(b) A correctly completed extended or statistical calculation based on the experimental work and/or fieldwork data

A wider range of extended or statistical calculations was used in this year's reports, with much less use of percentage change as a fall-back calculation, although use of percentage change is appropriate in some investigations. However, few candidates gained the calculation mark.

As in previous years, key issues included:

- not including an extended or statistical calculation
- not including a worked example demonstrating how the calculated value was obtained. The worked example must include the formula used for the calculation, including relationships within it, for example, where x =, otherwise markers cannot check that the calculated value is correct.

A mean or simple percentage calculation does not count as an extended or statistical calculation.

Measures of statistical dispersion, such as standard deviation (SD) and interquartile range (IQR), are useful for determining the spread of data in a dataset. However, on its own, a single SD or IQR outcome has little value. Ideally, candidates should repeat the investigation, for example, by undertaking two or more transects, and compare the SD or IQR outcomes to determine which shows the most or least dispersion.

The outcome(s)s of the extended or statistical calculation(s) should be discussed in both the analysis and conclusion.

7 Evaluation of the investigation

Most candidates gained 0 or 1 mark, and few candidates gained 3 marks. The most common errors included commenting on aspects that should be standard practice at Higher level. For example, ‘repeat and calculate an average’ does not include justification and would not gain a mark, whereas ‘repeating the procedure 5 times and calculating an average would have highlighted the outlier results and improved the reliability of the data’ would be an appropriate evaluative statement.

The ‘Instructions for candidates’ section in the Higher Environmental Science Assignment Assessment Task provides detailed information on acceptable evaluative approaches, and you should encourage candidates to pay close attention to the list. You should advise candidates that they may infer reliability, accuracy, or precision without using the specific terms, but if they do use them, they must do so correctly.

Preparing candidates for assessment

Higher Environmental Science is a practical course. You **must** provide candidates with opportunities to undertake practical work and fieldwork that develop the knowledge and skills detailed in course specification, which is available on the Higher Environmental Science subject page.

You should provide candidates with the following materials and discuss their contents with them at an early stage:

- the Higher Environmental Science Course Specification, particularly the mandatory content section and the glossary
- the Higher Environmental Science Assignment Assessment Task
- past papers, marking instructions, and associated course reports

Question papers

Encourage candidates to use past papers and the associated marking instructions as revision tools. These will guide them in using language commensurate with Higher Environmental Science; for example, ‘consume’ is acceptable, but ‘eat’ is not.

Many questions in Higher Environmental Science question papers use phrasing and terminology that closely mirrors information found in the mandatory content section and glossary. You should therefore try to use similar phrasing and terminology in your teaching materials so that candidates are familiar with their meaning.

Incorporate command words used in Higher Environmental Science question papers into teaching at an early stage so that candidates are familiar with what the various command words mean and how they differ. This applies especially to ‘describe’, ‘explain’, ‘determine’, ‘analyse’, ‘conclude’, and ‘evaluate’.

Providing candidates with the annual course reports, especially the sections highlighting where candidates performed well or experienced difficulty and explaining why, will allow them to consider where they could improve their own practice.

Responses from candidates with handwriting that is difficult to read can be hard to decipher. This may disadvantage candidates if markers cannot read a word or

phrase. You should encourage candidates to write as clearly as possible so that markers can read their responses correctly.

Areas where gaps in candidate knowledge and understanding were especially noticeable included the following:

- definitions – while candidates do not have to provide verbatim versions of terms or definitions included in the course specification, they should be able to convey the essence of the term or definition in language commensurate with Higher level. Where a candidate provides an unexpected response, the marker will check it and award the mark if it is a valid alternative
- Living environment
    - key terms: Environmental Impact Assessment; mitigation; rewilding; heterotroph; carrying capacity; bioaccumulation; strategy
    - point and diffuse pollution
    - random sampling: simple, systematic, and stratified
    - biodiversity and biotic indices – the method and purpose of Simpson's biodiversity index, Trent biotic index, and Lincoln index
    - primary and secondary productivity, including ecological efficiency
    - reliability and validity
- Earth's resources
    - key terms: anaerobic digestion; processed biofuel; laterite
    - conversion of kinetic energy into heat energy as a result of extra-terrestrial impact
    - formation of convection currents in the atmosphere, oceans, and upper mantle
    - formation of hydrothermal vents
- Sustainability
    - key terms: life cycle analysis; circular and linear economic models
    - hydrogen production using steam methane reforming, gasification, pyrolysis, electrolysis

Assignment

The requirements for the assignment are detailed in the Higher Environmental Science Assignment Assessment Task and remain unchanged. It is important that all teachers and lecturers are familiar with the specific requirements for the Higher Environmental Science assignment, since these may differ from the requirements of other subjects, including other sciences.

Prior to candidates selecting their assignment topics, you should set aside time to discuss the assignment requirements, how marks are awarded, and to ensure that candidates fully understand what they are being asked to do.

Candidates are only permitted to take the 'Instructions for candidates' section into their report stage, rather than the entire Higher Environmental Science Assignment Assessment Task document. Therefore, you should ensure that each candidate has a personal copy. This copy must not be altered in any way or supplemented with centre-devised guides and/or proformas.

It is important that you provide candidates with a choice of assignment topics. These should be relevant to Higher Environmental Science course content and have an associated experiment or fieldwork investigation. Support materials are available on the Higher Environmental Science page of the Understanding Standards website, including worked examples of investigations with commentaries describing why a mark was or was not awarded.

One of the assignment exemplars published on our Understanding Standards website focuses on whether a build-up of carbon dioxide during a class has an impact on student performance (reaction time tests). The original investigation was undertaken by Higher candidates in a college, where class periods are considerably longer than in schools and candidates move around less, allowing more time for carbon dioxide to settle out and have an impact. There has been an increase in the number of candidates in schools attempting this investigation, but they typically found their results to be inconclusive, which hampered their analysis, conclusions and evaluations. We therefore advise centres not to provide this investigation as an option. We will also remove it from the Understanding Standards website.

Candidates are permitted to work either individually or in a small group (maximum of four candidates), and you should limit the number of individuals who select any given topic. It is not acceptable for the entire class or cohort to do the same assignment. For example, in a class of 20 with candidates working in five groups of four, you must ensure that each group carries out a different investigation. To ensure that each group is offered a choice of topic, it would be appropriate to make a list of six or more investigations available for the five groups.

Candidates may share data within their group, but not outside the group. Once they have collected their experimental or fieldwork data, each candidate must then work **individually** to carry out internet and/or literature research and produce their report independently. They are not permitted to share internet and/or literature information or data, or to work in groups to find it. You must ensure there is no collusion between candidates in this part of the research.

The following are areas where gaps in candidate understanding of the assignment report requirements were especially noticeable. These mirror gaps identified in successive course reports, so it would be worth spending extra time ensuring that candidates understand where marks are commonly missed and why.

1 Aim

Candidates must formulate their aim themselves, and then meet with you to ensure that it is suitable in terms of health and safety, resource availability, and the availability of relevant internet/literature data and/or information.

Ensure that candidates know whether they are collecting data from one or two experiments or fieldwork investigations. For example, measuring pH along two or more transects is one fieldwork investigation, while measuring pH and soil moisture along one transect constitutes two fieldwork investigations. This is important, as the aim(s) should be reflected in the underlying science, and the marker should be able to anticipate the type and range of data to look for in the report.

If the aim is unclear, it may not be possible to award the mark for the conclusion.

2 Underlying environmental science

You should ensure that the range of topics available to candidates is appropriate to Higher Environmental Science course content. Three marks are available in this section; to gain full marks, the candidate must provide a relatively in-depth account that demonstrates a good understanding of relevant environmental science and uses Higher-level environmental science terms.

If candidates are using equipment with an arbitrary scale without units, they should include a statement in this section explaining what the arbitrary scale represents.

3(a) A brief summary of the approach(es) used to collect experimental work and/or fieldwork data

The mark is awarded for the skill of summarising the data collection approach. A couple of sentences describing what is being measured, where it is being measured and the equipment being used would be sufficient. Examples are provided in the table on page 13 of the Higher Environmental Science Assignment Assessment Task.

3(c) Data, including any mean and/or derived values, presented in a correctly produced table(s)

Candidates may take their raw data in table form into the report stage and paste or copy it into the report. The raw data table must not include pre-prepared columns, headings, or units for mean and/or derived values; candidates can add these to the end of the pasted or copied raw data table during the report stage. In addition, candidates must not take in mean and derived values; they must calculate these during the report stage.

If a candidate collects data for a calibration curve, they should treat it as raw data and draw the graph during the report stage.

3(e) A citation and reference for a source of internet/literature data or information

Both a citation and reference are required. You should ensure that candidates know the difference between them and where each should be placed in their report. The mark is not awarded if the candidate places a full reference or URL within the body of the text in place of a citation.

Candidates should be familiar with the requirements for presenting each type of reference, which should be placed at the end of the report.

5(a) and (b) Analysis of experimental work and/or fieldwork data and a correctly completed extended or statistical calculation based on the experimental work and/or fieldwork data

Candidates should consider carefully the type(s) of extended or statistical calculation that would be most appropriate to their experiment or fieldwork investigation.

A mean or simple percentage calculation does not count as an extended or statistical calculation. A percentage change calculation is appropriate in some cases, but for many investigations it will produce a value that does not add to the analysis and conclusion.

Candidates should then discuss the outcome of the extended or statistical calculation(s) in both the analysis and conclusion.

7 Evaluation

Evaluative statements, with accompanying justification, could relate to the data collection method, results and/or data from the internet or literature sources. The ‘Instructions for candidates’ section in the Higher Environmental Science Assignment Assessment Task provides a range of examples relating to accuracy, precision, adequacy, limitations, and reliability. Candidates should be aware that they do not have to use these terms, but if they do, they must use them correctly.

Changes to the course assessment from session 2026–27

- We've reduced marks for question paper 2 from 100 to 80 marks.
- We've reduced duration of question paper 2 from 2 hours 30 minutes to 2 hours.
- We've reduced the scaled mark for the assignment from 30 to 25.

We've amended the question paper details in the course specification. Candidates must have the opportunity to carry out a wide range of experimental work. You may wish to update prelims to match the updated format and duration of the question paper.