

**Environmental Science:  
Guidance on gathering evidence and  
providing estimates**

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# Aims

The aims of this document are:

- ◆ to guide and advise teachers and lecturers in gathering evidence and providing estimates for their candidates
- ◆ to provide guidance on:
  - what is meant by an estimate
  - how to make estimates fair for all candidates
  - how to improve the predictive value of estimates
- ◆ to provide advice on:
  - how to compare evidence for estimates with SQA assessments
  - normal rules used in marking evidence for estimates in environmental science

## What is an estimate?

An estimate is a judgement of a final grade a candidate will achieve in a national course. It is based on a holistic review of a candidate's performance as indicated by assessment evidence, gathered at a centre level. It is imperative that each estimate is a realistic, evidence-based prediction of a candidate's final attainment in the course assessment.

The challenge for teachers and lecturers is to use their professional judgement to estimate the grade a candidate will achieve in a national course before they sit any external course assessment.

Teachers and lecturers are asked to make this estimate by taking account not only of the evidence of the candidate's attainment of the skills, knowledge and understanding of the course, but also of the relative strength and reliability of the predictive value of each piece of evidence.

For example, a prelim exam, covering most of the course, would be expected to be a much more reliable predictor of a candidate's final grade than an end-of-topic test. It is important to consider the quality of evidence rather than the quantity of evidence when engaging with the estimation process.

The following types of evidence, shown in order of reliability for producing estimates, could be utilised when estimating a candidate's overall attainment in environmental science.

### **Prelim or mock exam**

A prelim or mock exam is undertaken under the same conditions as the question paper. It should be clearly aligned to the course specification, content, and level of demand as exemplified in the specimen question paper and past papers.

Specimen question papers and past papers are in the public domain and can be readily accessed by candidates. If used in their entirety, they do not form valid evidence. However,

individual questions from specimen question papers and past papers can be incorporated into prelims or mock exams. Alternatively, centres may devise their own prelims.

### **Top-up exam or an extended test**

As prelims or mock exams usually take place before the course is completed, it is important that evidence to support the latter part of the course is generated for consideration in making an estimate. The best way of doing this is through a top-up exam or an extended test. This assessment should sample the knowledge not covered in the prelim or mock exam, as well as skills. It should also sample content from the earlier parts of the course. However, it is important that no questions are repeated between the assessments, as questions should be unseen.

The attainment demonstrated in this top-up exam or extended test should be combined with the attainment demonstrated in the prelim or mock exam, to form a judgement about the estimated grade.

Centres must give greater weight to the prelim or mock exam; however, the judgement should be holistic rather than focusing only on the piece of evidence that gives the best grade.

### **End-of-topic class tests**

End-of-topic tests should sample the key aspects of the course and be conducted under the same conditions as the question paper. End-of-topic class tests are unlikely to contain sufficient integration, challenge and/or application, and should be used as **supplementary** evidence only, to support estimates.

## **Fairness to all candidates**

When making estimates, teachers and lecturers should bear in mind any factors that may impact a candidate's access to learning, especially:

- ◆ assessment arrangements in place for the final exam such as reader, scribe, extra time etc
- ◆ illness or personal circumstances at the time of the evidence being produced
- ◆ caring responsibilities, illness or disability which present a barrier to learning

Teachers and lecturers should also take steps to eliminate any bias from estimates. Implicit bias may originate from stereotypes based on factors such as background, gender, disability, and ethnicity.

## **Predictive value of evidence**

**Judgement about a candidate's estimated grade must be grounded in evidence that demonstrates attainment.**

In preparing evidence, teachers and lecturers should consider:

- ◆ course coverage
- ◆ similarity to course assessment
- ◆ level of demand

Overreliance on end-of-topic tests as a basis for an estimate is discouraged. By their nature, end-of-topic tests, even those designed to include A-type marks, tend to compartmentalise knowledge and understanding of the course, and are therefore of a lesser demand than course assessment.

A piece of evidence has a high predictive value if a candidate who performs well in the evidence would be reasonably expected to perform equally well in the course assessment.

Some considerations that impact on the predictive value include the following:

### **Course coverage**

If a piece of evidence covers only a small portion of the course content, it is unlikely to be a good predictor for the full course.

### **Similarity to course assessment**

Evidence that is similar to SQA course assessment will have a more reliable predictive value than evidence that differs considerably, in terms of structure, content, and the conditions under which the evidence is obtained.

Evidence gathered under less strict conditions, or of a lower demand than SQA course assessment, will have a weaker predictive value.

### **Level of demand**

Evidence gathered should support the estimated grade. The evidence gathered must be set at an appropriate level of demand for it to be a reliable predictor of candidate achievement.

In environmental science, approximately 30% of course assessment assesses A-grade skills, knowledge and understanding. To be a reliable predictor, evidence should mirror this.

In other words, the most reliable estimate of a candidate's grade will be derived from evidence that matches the external assessment as closely as possible.

In environmental science, SQA's question papers are constructed taking account of:

- ◆ coverage of the content of the course
- ◆ coverage of the skills, knowledge and understanding of the course
- ◆ integration of knowledge and skills from across the course
- ◆ the level of demand of the question papers as a whole, (ie the proportion of A-type marks to C-type marks)

# Course content

The table gives an indication of how an environmental science question paper is balanced for course content.

Level	Topic area Living Environment	Earth's Resources	Sustainability	Total
N5	33%	33%	33%	100%
Higher	33%	33%	33%	100%

In a prelim, the marks should be proportional to the topic areas being covered; for example, if examining all Living Environment content, but only half the Earth's Resources content, it would not be appropriate for these areas to be represented equally in the paper.

There is no requirement for every key area within a topic area to be assessed, but a wide range of sampling across the topic area should be employed.

# Skills assessed

The skills, knowledge and understanding question types are the same for National 5 and Higher Environmental Science courses, with the exception of the final one.

There are three knowledge-based skills (K1 to K3) and seven skills relating to scientific inquiry (S1 to S7). For environmental science question paper assessments, approximately 70% of the marks assess the three knowledge-based skills and 30% of the marks assess the skills of scientific inquiry.

The table shows the percentage distribution of marks, by skill, across the question papers.

Skills		N5	H
K1	Demonstrating knowledge and understanding of environmental science by making accurate statements	10-20%	10-20%
K2	Describing information, providing explanations, and integrating knowledge	15-30%	15-30%
K3	Applying knowledge of environmental science to new situations, interpreting information, and solving problems	20-25%	20-25%
S1	Planning and/or designing experimental/fieldwork investigations to test given hypotheses or illustrate particular effects	0-6%	0-6%
S2	Selecting information from a variety of sources	4-8%	4-8%
S3	Presenting information appropriately in a variety of forms	3-7%	3-7%
S4	Processing information/data (using calculations and units, where appropriate)	3-8%	3-8%
S5	Making predictions and generalisations based on evidence/information	0-6%	0-6%
S6	Drawing conclusions and giving explanations supported by evidence/justification	4-10%	4-10%

S7	Suggesting improvements to experimental/fieldwork investigations (N5)	0-4%	0-4%
	Evaluating experiments/fieldwork investigations and suggesting improvements (H)		

Some of the skills of scientific inquiry are more naturally assessed as part of the coursework (assignment) and are not heavily assessed in the question paper. In the absence of coursework, there is scope to assess these skills in a prelim so long as this does not significantly change the structure or format that candidates may be expecting, based on practice using past papers.

The application of environmental science section has an intentional focus on skills of scientific inquiry (S1 to S7).

The marks allocated to a single question can be split between knowledge (K1 to K3) and skills (S1 to S7) categories to reflect the nature of the question.

## Question paper structure

The National 5 Environmental Science question paper has three sections.

Section	Content
1	<p><b>Restricted-response questions totalling 66 marks</b></p> <p>This section samples knowledge and understanding from across the course and a selection of skills of scientific inquiry by providing candidates with appropriately challenging context-based questions. There may be integration of topic areas and skills.</p>
2	<p><b>A case study of an application of environmental science, with restricted and extended-response questions totalling 20 marks</b></p> <p>This section samples knowledge and understanding and scientific inquiry relating to a case study. There may be integration of topic areas and skills, with an emphasis on problem solving. Data and information relating to the case study are provided in a separate supplementary booklet.</p>
3	<p><b>Extended-response questions totalling 14 marks</b></p> <p>This section has:</p> <ul style="list-style-type: none"> <li>◆ one pair of structured extended-response questions, with the candidate selecting and answering one of these</li> <li>◆ one pair of unstructured extended-response questions, with the candidate selecting and answering one of these</li> </ul> <p>Each extended-response question has a mark allocation of 7 marks. Each pair is drawn from the same topic area. The two pairs come from different topic areas.</p>

	The key areas covered in this section are not covered in other sections of the question paper.
<b>Total</b>	<b>100 marks</b>

Higher Environmental Science has two question papers.

<b>Paper and Section</b>	<b>Content</b>
Paper 1	<p><b>A case study of an application of environmental science, with restricted and extended-response questions totalling 20 marks</b></p> <p>This section samples knowledge and understanding and scientific inquiry relating to a case study.</p> <p>There will be integration of topic areas and skills.</p> <p>Data and information relating to the case study are provided in a separate supplementary booklet.</p>
Paper 2 Section 1	<p><b>Restricted-response questions totalling 80 marks</b></p> <p>This section samples knowledge and understanding from across the course and a selection of skills of scientific inquiry by providing candidates with appropriately challenging context-based questions.</p> <p>There will be integration of topic areas and skills.</p>
Paper 2 Section 2	<p><b>Extended-response questions totalling 20 marks</b></p> <p>This section has:</p> <ul style="list-style-type: none"> <li>◆ one pair of structured extended-response questions, with the candidate selecting and answering one of these</li> <li>◆ one pair of unstructured extended-response questions, with the candidate selecting and answering one of these</li> </ul> <p>Each extended-response question has a mark allocation of 10 marks.</p> <p>Each pair is drawn from the same topic area.</p> <p>The two pairs are from different topic areas.</p> <p>The key areas covered in this section are not covered in other sections of the question paper.</p>
<b>Total</b>	<b>120 marks</b>



# A-type and C-type marks

## A-type marks

A maximum of 30% of the marks in course assessment will be 'A'-type marks.

These require candidates to demonstrate a consistently high performance in relation to the skills, knowledge and understanding for the course.

Candidates demonstrate this by:

- ◆ showing a deeper level of knowledge and understanding
- ◆ integrating and applying skills, knowledge and understanding across the course
- ◆ displaying problem solving skills in less familiar and more complex contexts
- ◆ applying skills of scientific understanding and analytical thinking in complex contexts or contexts that involve more complex data

The criteria for A-type marks relate to the level of demand of a question rather than the difficulty that candidates may have with a question. In general, questions testing higher order skills such as analysis or evaluation usually have A-type marks associated with them. Questions testing recall, despite candidates often performing poorly in them, do not have associated A-type marks, since recall is not a higher order skill.

Questions with A-type marks may also be evidenced through the approach used for marking.

See Appendix 1 for examples of questions with A-type marks.

## C-type marks

Questions with 'C'-type marks require candidates to demonstrate successful performance in relation to the skills, knowledge and understanding for the course.

Approximately 70% of marks across the paper should be targeted at C-grade candidates.

It should be noted that there is no intentional targeting of questions for B-grade candidates. The probability is that B-grade candidates would achieve the majority of C-type marks and some of the A-type marks.

See Appendix 1 for examples of questions with C-type marks.

# Constructing an environmental science prelim

**There is no requirement or obligation on centres to construct new assessments each year on which to base estimates.**

However, if using any pre-existing assessments on which to base estimates, centres should consider how closely these mirror SQA-produced question papers (see the section on 'Using cut-off scores').

The following points should be considered if constructing a new environmental science prelim:

- ◆ If using past papers as a source, the prelim should be composed of questions drawn from at least **three** past papers, which could include the specimen question paper and avoid drawing consecutive questions en-bloc from a single past paper.
- ◆ If questions from past papers are adapted, or if a centre devises its own questions, or a mix of these, the questions must meet the assessment requirements detailed in the course specification (see Skills Assessed section above).
- ◆ Marks should be proportional to the areas being covered. For example, if examining one full topic area but only half the content of another topic area, it would not be appropriate for these areas to be represented equally in the paper.
- ◆ Each question assessing knowledge should focus on the mandatory content listed in the course specification and assess only what is listed there. The context of the question, however, may be unfamiliar to candidates.
- ◆ There is no set order for topic areas to be presented in an environmental science exam paper, but blocks of questions from a single topic area should be avoided and careful consideration should be given to the overall flow of the paper.
- ◆ Approximately 30% of the marks should be A-type, and 70% C-type.
- ◆ The prelim should mirror the structure, format, and language of an SQA question paper.
- ◆ Care should be taken not to include questions that are either too short or too long. The number of marks allocated to each question or sub-question should be similar to those allocated in past papers.
- ◆ The application of environmental science section should have an accompanying supplementary booklet containing data and information relevant to the context of the case study, which will support the candidate in the decision-making task.

## Writing questions

To support teachers and lecturers, should they wish to write questions for assessments on which to base estimates, some guidance to SQA question writers can be found in Appendix 2 at the end of this guidance.

# Marking reliably

Close attention should be paid to the published marking instructions and general marking principles that accompany past papers, as these demonstrate the required marking standard. The general marking principles for environmental science can be found at the start of the marking instructions documents.

General marking principles are reviewed annually and may be subject to change. They also differ between subjects and may differ between levels. Those accompanying the most recent past paper available on the SQA environmental science subject page of the SQA website should always be applied.

Centre-devised marking instructions should follow the same format and standard as those published by SQA. It is good practice to prepare the marking instructions at the same time as the questions are being written. Marking instructions can then be refined in light of candidate responses.

Some common marking issues include:

- ◆ Definitions, either giving the term based on a given description, or defining the term. Candidates do not have to give a word-for-word version of the definitions provided in the course specification but should be able to give a good approximation and also be able to name the appropriate term.
- ◆ Calculations – candidates should be encouraged to show their working so that any errors can be identified and explained by the teacher or lecturer post-assessment. This would also facilitate carrying forward of values in multi-stage calculations, where credit may be given when a candidate has successfully calculated a final outcome based on the value they have carried forward.
- ◆ Confusion between command words or key terms:
  - describe and explain
  - suggest and explain
  - conclude and evaluate (Higher level)
  - reliability and validity (Higher level)
  - bioaccumulation and biomagnification (Higher level)
- ◆ Use of bullet points and diagrams in extended responses (essays). Bullet points are acceptable for listing items or points, but each bulleted item/point must then be discussed in more detail. Marks should not be awarded if no discussion is included. Annotated diagrams are acceptable but, as with use of bullet points, discussion of what is shown in the diagram must follow. Marks should not be awarded if no discussion is included.
- ◆ Candidates must be clear about the difference between the command words as, for example, 'describe' is a C-type mark whereas 'explain' is typically an A-type mark.
- ◆ Omission of units when presenting calculated values - it is good practice to include the unit even if it is included in the question stem; where there is no unit shown in the question stem, candidates must include it alongside the calculated value.

# Using cut-off scores

Teachers and lecturers should use the information provided in this guide to check how closely the assessments used to produce evidence for estimates mirror SQA question papers.

The notional cut-off scores for course assessment are:

70% A grade

60% B grade

50% C grade

40% D grade

These notional cut-off marks should not be applied unless the assessments used by the centre mirror an SQA question paper. It **would** be reasonable to use these grades for estimates if the prelim (or other evidence) matches an SQA question paper in terms of course coverage and duration, similarity of question style (skills coverage, language etc), and level of demand (30% A-type marks).

The cut-off scores should be amended to reflect any differences between centre evidence and SQA question papers. Such differences may include:

- ◆ a prelim being split over a number of sessions rather than a single sitting
- ◆ assessments with an insufficient number of A-type marks
- ◆ assessments that do not adequately sample the skills, knowledge and understanding of the course
- ◆ assessments that do not adequately integrate the skills, knowledge and understanding of the course

In such circumstances, the cut-off scores used should be increased to compensate for the differences.

For example, a centre checks their prelims and decides that they contain 25% A-type marks rather than 30%. There is a 'first' prelim in a 2-hour single sitting in January and a 'mop-up' prelim in a 1-hour sitting in May. Overall, the coverage of skills, knowledge and understanding is satisfactory, and the 'mop-up' prelim contains some integration of skills, knowledge and understanding from earlier topics. To account for differences between their assessments and the SQA question paper, the centre raises the cut-off scores above notional values, when assigning grades.

It is important to note that not all questions intended to challenge A-grade candidates actually do so; sometimes intended A-type mark questions turn out to be relatively straightforward and the majority of candidates achieve the marks. Typically, around 30% or fewer of candidates are expected to achieve each A-type marks. Therefore, once all candidates' prelims have been marked, overall class performance should be reviewed, especially whether a mark intended to perform as an A-type did so; if not, consider why this

might be and whether the grade cut-off score should be adjusted upwards/downwards to reflect candidate performance.

A question considered to be quite straightforward may yield responses significantly different to the marking instructions, suggesting that the wording of the question caused confusion, or that the question was too challenging/not sufficiently challenging. Again, the grade cut-off scores may need to be adjusted to reflect this.

Cut-off scores must always be set to reflect the level of demand of a particular assessment. It would not be appropriate for a centre to take an average of previous SQA cut-off scores and apply that to their own assessments.

## Producing estimates

**There is no requirement, or obligation on centres to construct new assessments on which to base estimates.**

However, centres should judge the methods used to generate the evidence on which candidate estimates are made and compare these with SQA question papers.

Factors to be considered are:

- ◆ conditions of assessment
- ◆ coverage of course content
- ◆ coverage of course skills
- ◆ level of demand of the assessment

If the methods used by the centre to generate estimates do not exactly mirror SQA course assessment then, as described above, the centre should amend the cut-off scores used to grade the candidates.

## Frequently asked questions

**How can I look more closely at prelim and test performance to be sure of making an appropriate estimate for each candidate?**

Whilst the overall percentage score for each candidate is often used by centres as a basis for estimating grades, it is important to look at the level of demand of the assessment too. Across the various assessment components, SQA aims for approximately 30% of the marks to address the A-grade criteria and therefore be more discriminating.

A candidate who scores highly in evidence that contains an appropriate proportion of A-type marks is likely to also score highly in the SQA assessment. However, if the assessments contain no or few discriminating questions or tasks, then a candidate who scores highly is probably only demonstrating that they are a strong C-grade candidate rather than A-grade.

Looking at how candidates performed in the more demanding questions or parts of a task will often give a fair idea of whether the candidate is likely to attain grade A or not.

**The cut-off scores I used for the prelim were higher than the notional cut-offs of 50% for a C and 70% for an A, to reflect the fact that the prelim wasn't as demanding as the SQA-produced question paper and only covered two-thirds of the course. Should I be changing to use notional cut-off scores?**

Adjusting cut-off scores to reflect the level of demand of the evidence is good practice and centres are encouraged to continue to follow this good practice.

In this case, using notional cut-off scores of 50% for a C and 70% for an A or arbitrarily adding a set percentage to every candidate's prelim score is likely to inflate estimates unrealistically and lead to unreliable information.

**Should I be including homework and classwork in my evidence for estimates?**

It is important to consider the **quality** of the evidence rather than the **quantity** of evidence when considering the estimate.

Centres should be cautious about such evidence. Performance in homework may be an indicator of candidate performance but, equally, candidates may have support from a sibling, parent, carer or tutor and many teachers or lecturers encourage candidates to seek help from them if there are aspects of the homework with which the candidate is struggling. Homework is usually open-book in nature and that may also mean it is not a true reflection of a candidate's ability. Consequently, homework marks are unlikely to be reliable evidence of a candidate's understanding or ability, although teachers or lecturers may be aware of how much support was required.

Classwork is another area where caution should be exercised. Most classwork is conducted open-book, and teachers and lecturers encourage candidates to seek help either directly from them or from other students in the class. It may therefore not always give a true reflection of candidate performance.

**I plan to give my candidates the opportunity to do some online assessment in the event of the school being closed. Should I be including this in my estimate?**

Centres should be cautious about including such evidence. The conditions of assessment may be such that the result is not a true reflection of the candidate's ability, and may be influenced by external factors such as candidates having open-books, collusion between candidates, or support from a parent, carer or tutor. Centres should also consider whether it is fair to include such evidence when all candidates may not have taken part, or some may not have adhered to the necessary conditions of assessment.

It must also be considered whether **all** candidates in the class have appropriate access to technology (computer and/or broadband connection) to be able to participate in online assessment.

Centres must be sure that the appropriate conditions for assessment are adhered to.

# Case studies

## Case Study 1

A centre has provided the following evidence for a candidate:

- ◆ A prelim, covering two-thirds of the course and including an application of environmental science case study. It is made up of a selection of questions from past papers, with 25% of the marks testing A-grade criteria. The centre has applied notional cut-off scores.

The candidate scored 61% (borderline B/C).

- ◆ Six 'end of topic' class tests, each out of 30 marks, covering the whole course. Each main topic area has been split in two. There is no integration of topics or testing of long-term recall or application. The proportion of A-type marks varies between 17% and 26% and the candidate's performance in the tests was: 60%, 83%, 63%, 73%, 67% and 70%.

The centre estimates the candidate at grade B.

### Comments on the prelim

The prelim was constructed using a selection of questions from SQA National 5 Environmental Science past papers and the specimen question paper.

It has an approximately even spread between two main topic areas.

It includes a question requiring graphical presentation and analysis.

It is slightly top heavy in calculations but not excessively so.

The number of A-type marks is lower than the notional 30% but is acceptable.

Overall, it is a reasonable attempt at mirroring an SQA paper.

The centre has applied the general marking principles for environmental science in marking the evidence, and there has been cross-marking to provide quality assurance.

### Comments on the end-of-topic tests

The tests are much more variable in standard than the prelim, with some having as few as 17% of the marks addressing the A-grade criteria.

The tests contain a reasonable number of 3-mark questions, inviting a more extended response to demonstrate understanding; however, some of these require a descriptive response and would have been better framed as a 'describe' question and allocated fewer marks.

The candidate's performance in the tests is better in the ones that have fewer A-type marks.

The centre has applied the general marking principles for environmental science but there has been no quality assurance of the marking.

### **Overall comments on evidence provided**

Although the candidate has, on some occasions, appeared to perform as an A-grade candidate, it has only been in short tests, some of which have insufficient A-type marks. The main, and most reliable, piece of evidence suggests the candidate is borderline B/C.

Taking all the evidence together and looking at the actual attainment against the A-grade criteria, the best estimate for this candidate is a grade B. (The fact the candidate occasionally scored 70% or more in short tests does not outweigh the overall attainment they demonstrated.)

## **Case Study 2**

A centre has opted not to hold a formal prelim diet for National 5 candidates. Instead, candidates will sit closed-book tests under close supervision during class time.

They have submitted the following evidence for a candidate:

- ◆ Four class tests created by 'chunking' last year's prelim into appropriately sized sections.
- ◆ The original prelim had been made up of questions from a number of past SQA question papers, with 25% of the marks testing A-grade criteria.
- ◆ Collectively, the tests cover two-thirds of the course and include an application of environmental science case study.
- ◆ Candidates were allowed 45 minutes in class, under closely supervised, closed-book conditions, to complete each test.
- ◆ The tests were sat over a four-week period in January and February. Candidates were aware of the topic areas of the course being assessed.
- ◆ Marks for the class tests were combined, and the candidate achieved an overall 74%.
- ◆ The centre applied notional cut-off scores and estimates the candidate as grade A.
- ◆ An 'A/B-type' class test at the end of the course, covering only the topic areas not covered in the 'chunked' prelim. Around 20% of the marks in this test are A-type. The candidate scored 73%.
- ◆ Three tests from the unit assessment support packages assessing outcome 2 from the SCQF level 5 units which were formerly part of the National 5 course. The candidate's performance in these was: 80%, 85% and 76%.

The centre estimated the candidate at grade A.

### **Comments on the 'chunked' prelim**

The original prelim was put together using a selection of questions from SQA National 5 Environmental Science past papers and the specimen question paper.



It has an approximately even spread between two main topic areas.

It includes a question requiring graphical presentation and analysis.

It is slightly top heavy in calculations but not excessively so.

The number of A-type marks is lower than the notional 30%, but is acceptable.

Overall, it is a reasonable attempt at mirroring an SQA paper.

The centre split the original prelim to fit class times, and no adaptation of questions was applied:

- Test 1: application of environmental science
- Test 2: half the short response section
- Test 3: the remaining half of the short response section
- Test 4: extended writing (essay)

The general marking principles for environmental science were applied in marking, and there has been cross-marking to provide quality assurance.

'Chunking' of the prelim makes the level of demand lower than the full prelim would have been.

Even assuming that all National 5 Environmental Science candidates in the centre sat the tests simultaneously, candidates were aware of the topics covered in each test, meaning that they only needed to revise and remember limited areas of the course for each test.

Overall, the time allocation was greater than the 2 hours 30 minutes of the full prelim.

In these circumstances, the notional 70% cut-off score for a grade A estimate should be raised. An overall 'prelim' mark of 74% would most likely be evidence for an estimate of grade B.

### **Comments on the 'end-of-course' class test**

As per the 'chunked' prelim, the level of demand of this test is lower than an SQA-produced course assessment.

In addition to the reasons given above, the percentage of A-type marks is lower than the 30% target in SQA-produced papers and there is no integration of skills, knowledge and understanding from across the course.

Again, these would be reasons for the notional 70% cut-off score for a grade A to be raised, and a mark of 73% would most likely confirm a prelim estimate of grade B.

### **Comments on the SCQF level 5 tests**

These tests consist of questions that have no A-type marks associated with them. A series of high scores in these assessments would only be evidence for an estimate of grade C.

On their own, the marks scored in these assessments would not support an estimate of grade A or grade B, but, taking a holistic view of all the evidence submitted for this candidate, it would be consistent with an estimate of grade B.

**Overall comments on evidence provided**

A holistic view of the evidence produced by this candidate supports an estimate of grade B.

# Appendix 1 – A-type and C-type marks

## Remembering

This type of question asks candidates to recall facts and basic concepts, ie demonstrate knowledge and understanding, and is usually C-type. The exception is for extended-response questions (essays), where extensive recall is required. A typical essay question will have multiple A-type marks, depending on the subject complexity.

Command word	Example	Comments
Define	<p><b>N5 2019 paper Q1 (b)</b> Iron ore is located in the crust of the Earth. Define the term <i>ore</i>. (1 mark)</p>	<p>C-type mark. Candidates often struggle with both naming terms and giving definitions. This is not an indicator that this type of question is A-type; rather that candidates need to hone their recall capability.</p>
	<p><b>Higher 2019 paper 2 Q5 (b)</b> State the term used to describe the percentage of biomass produced by one trophic level that is transferred and incorporated into biomass at the next trophic level. (1 mark)</p>	
Describe	<p><b>N5 2018 paper Q2 (d)(ii)</b> Describe a named method that could be used to estimate the size of the dormouse population. (2 marks)</p> <p><b>N5 specimen paper Q16A</b> Photosynthesis is an important process within the carbon cycle. Describe the process of photosynthesis and explain its importance to primary consumers. (7 marks)</p>	<p>In short response questions, this type of mark is C-type.</p> <p>In N5 extended-response questions (7 marks), this type of question would have 3-4 A-type marks (depending on subject complexity and also whether it is a structured or unstructured question).</p>

	<p><b>Higher 2019 paper 2 Q4 (a)(ii)</b> Describe a property of the radioactive source that makes it suitable for nuclear energy production. (1 mark).</p>	<p>C-type mark. Recall of information provided in the course specification.</p>
Discuss	<p><b>N5 specimen paper Q12A</b> Discuss the impacts of an increasing global population on Earth's food supplies. (7 marks)</p>	<p>'Discuss' is typically used for extended-response questions. These require recall.</p> <p>In N5 extended-response questions (7 marks), this type of question would have 3-4 A-type marks, depending on subject complexity and also whether it is a structured or unstructured question.</p> <p>In Higher extended-response questions (10 marks), this type of question would have 5-6 A-type marks, depending on subject complexity and whether it is a structured or unstructured question.</p>
	<p><b>Higher 2019 paper 2 Q8A</b> Discuss population growth under the following headings: (a) Exponential population growth (b) Logistic population growth. (10 marks)</p> <p><b>Higher 2019 paper 2 Q9B</b> Discuss three factors that affect oceanic circulation. (10 marks)</p>	
Give, name, list, state, complete	<p><b>N5 specimen paper Q1 (a)</b> State the term used to describe the place where buzzards live. (1 mark)</p> <p><b>Q1 (b) continues:</b> Complete the table below to identify the terms and their definitions. (2 marks)</p>	<p>C-type mark.</p> <p>Recall questions are typically C-type marks. However, in a Higher extended-response question, it is most likely to be A-grade candidates who could describe both quantitative and qualitative techniques in sufficient detail (5-6 A-type marks depending on subject complexity and whether it is a structured or unstructured question).</p>
	<p><b>Higher 2016 paper Q11 A</b> Give an account of the qualitative and quantitative techniques used for sampling named plant and animal groups or species found in terrestrial ecosystems. (10 marks)</p>	

Select	<b>N5 2019 paper Q1 (a)</b> State which diagram is labelled correctly. (1 mark)	C-type mark. 'State' is used here as the command word, but the required response relies on recall.
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### Understanding/analysing

Understanding-type questions ask candidates to explain ideas or concepts. Typically worth 1 or 2 marks, this could attract an A-type mark depending on context.

Analysing-type questions require candidates to break information into parts to explore understanding and relationships. This is often a more difficult concept for candidates and would typically attract an A-type mark.

Command word	Example	Comments
Compare	<b>N5 specimen paper Q3 (c)(ii)</b> The government has set a target to reduce greenhouse gas emissions. The biomass boiler (in the diagram) replaced an oil-fired boiler. Compare the greenhouse gas emissions from burning biomass with those from burning oil. (2 marks)	C-type marks. Both examples could be followed up with a justification or explanation question (possibly A-type).
	<b>Higher specimen paper 2 Q7 (b)(ii)</b> Compare the environmental impacts of recycling with those of reusing plastic food packaging. (2 marks)	
Explain	<b>N5 2018 paper Q4 (c)</b> Farmers try to increase the yield of the grass crop. This requires a supply of nitrates. Explain how this could be achieved. (2 marks)	Valid example of a supply of nitrates (C-type mark). Valid explanation (A-type mark).  Most candidates will know about water extraction, but this question asks about the sustainability of this (2 A-type marks).
	<b>N5 2018 paper Q4 (e)</b> Farmers throughout the world often extract water containing within porous rock to irrigate crops.	

	<p>Explain why this practice might not be sustainable. (2 marks)</p> <p><b>N5 2019 paper Q5 (iii)</b> Overharvesting by humans for food has removed most of the shore crabs from the ecosystem. Predict the impact this will have on the dog whelk investigation. Explain your answer. (1 mark)</p>	<p>Note that an 'explain' question worth 2 marks will not necessarily have 2 A-type marks. Possible impacts on dog whelks must be assessed, (ie increase, decrease or stay the same) (no mark allocated to this part of the answer), followed by an explanation of why this change would occur (A-type mark).</p>
	<p><b>Higher 2019 paper 1 Q2 (b)(i)</b> Explain the impact of eutrophication on biological oxygen demand (BOD). (2 marks)</p>	<p>Eutrophication and BOD are key terms at Higher level (1 C-type mark), but this question asks for the impact of the former on the latter (1 A-type mark).</p>
Outline	<p><b>Higher 2019 paper 2 Q3 (b)(ii)</b> Outline the advantages and disadvantages of your chosen strategy. (3 marks)</p>	<p>3 C-type marks.</p>
	<p><b>Higher specimen paper Q1 (a)(iv)</b> Outline why ecosystem stability increases as succession proceeds through to a stable community. (2 marks)</p>	<p>Requires candidates to state what happens during succession (1 C-type mark) and describe how the outcome contributes to ecosystem stability (1 A-type mark).</p>

## Applying

This type of question asks candidates to use information in a new situation. This may require demonstration of knowledge and understanding or problem solving, or a mixture of both.

Note that some command words shown here, (eg identify, select) also fall into the ‘remembering’ category; there will typically be a qualifier part to the question, requiring a higher order skill than simple recall.

Command word	Example	Comments
Calculate, determine, estimate, express	<p><b>N5 2019 paper Q1 (c)(i)</b> The diagram shows an iron ore deposit. Calculate the volume of the iron ore deposit. (1 mark)</p> <p><b>Part (ii)</b> The ore has a density of 4 tonnes per m<sup>3</sup>. Use the formula (mass = density × volume) to calculate the mass, in tonnes, of the ore. (1 mark)</p>	<p>Both examples include C-type marks.</p> <p>The formula for calculating the volume of a shape is not provided, so this question relies on candidates recalling the formula and then applying it correctly. Recalling the formula is not considered to be an A-type mark.</p> <p>This is a number substitution task, which requires carry forward of the calculated value from part (i).</p> <p>There is scope to combine parts (i) and (ii) into a single question, worth 2 A-type marks. However, consideration must be given to whether this would be appropriate for N5 candidates.</p>
	<p><b>Higher 2019 paper 2 Q3 (a)(iv)</b> Express, as a simple whole number ratio, the percentage of plastic packaging that is incinerated to landfill to lost to the environment. (1 mark)</p>	<p>C-type mark.</p>
	<p><b>Higher 2019 paper 2 Q2 (b)(iv)</b> Using the information provided (in a graph and formula),</p>	<p>Requires candidates to extract appropriate information from the graph (1 C-type mark), and then substitute it in</p>

	calculate the temperature change per kilometre of depth for this area. (2 marks)	the formula and correctly calculate an outcome (1 A-type mark).
Identify	<p><b>N5 2019 paper Q2 (e)</b> Complete the paired statement key. (3 marks)</p> <p><b>N5 2019 paper Q8 (d)(ii)</b> Name all the fish species (in the table) that would be found at a dissolved oxygen concentration of 3.5 mg l<sup>-1</sup> (1 mark)</p>	<p>Requires identification of characteristics to provide 6 correct statements, so processing of the information (S4)</p> <p>At N5, information to be used for completing the key would typically be clearly laid out, and this type of question would not usually include A-type marks.</p> <p>At Higher, the information layout may sometimes be less structured than at N5 and require candidates to search for the relevant details, so could include an A-type mark.</p> <p>C-type mark.</p>
	<p><b>Higher 2019 paper 2 Q6 (d)(ii)</b> Identify an improvement that could be made to the experimental set up that will increase the validity of the results. Justify your answer. (2 marks)</p>	Requires identification of a feature in the diagram that will impact on the validity of results (1 C-type mark), and a change that could be made to reduce the impact and increase validity (1 A-type mark).
	<p><b>N5 2019 paper Q8 (c)</b> Referring to the diagram, suggest a human activity that may be a threat to biodiversity within the river. Give a reason for your answer. (2 marks)</p>	Requires identification of a valid option from those shown in the diagram (1 C-type mark, S2), and appropriate justification for selecting this option (1 A-type mark, K3).
Select		



Suggest	<p><b>N5 2018 paper Q3 (c)</b> Suggest two reasons why the use of biofuels may not be environmentally friendly. (2 marks)</p>	Most candidates would be able to provide one valid reason (1 C-type mark) but fewer would achieve both (1 A-type mark).
	<p><b>Higher 2019 paper 2 Q7 (d)(ii)</b> Suggest a government-level strategy that could be used to conserve water on these islands. (1 mark)</p>	<p>C-type mark. A candidate may not know anything about government-level strategies specifically in the Mediterranean but should be able to apply their knowledge and understanding of water conservation methods.</p>

## Evaluating

This type of question requires candidates to justify a stand or decision.

Command word	Example	Comments
Decide	<p><b>N5 specimen paper Q5 (b)(i)</b> State which crop has the lowest combined percentage loss from these two causes. (1 mark)</p>	C-type mark.
	<p><b>N5 specimen paper Q2 (b)</b> The railway tracks are made of steel. A number of statements about steel are listed below. Tick the statements that are correct. (1 mark)</p>	C-type mark.
Explain	<p><b>Higher 2017 paper Q7 (c)(i)</b> (Graph question) Explain the relationship between world population and total carbon emissions. (2 marks)</p>	Candidates must first interpret the trends shown in the graph (1 C-type mark) and then provide a response that links the two trends (1 A-type mark).
Evaluate	<p><b>N5 2018 paper Q5 (d)</b> Hybrid cars are becoming more popular. Evaluate the sustainability of this trend. (2 marks)</p>	Most candidates would provide at least one valid statement (1 C-type mark) but fewer would present two (1 A-type mark).
	<p><b>N5 specimen paper Q11 (iii)</b> Using Source B, explain the trend in the number of granite rocks between sample points 2 to 3. (2 marks)</p>	Candidates must assess the trend and then explain why this trend is occurring. Both are higher order skills (conclude and evaluate), so 2 A-type marks.
	<p><b>Higher 2017 paper Q3 (c)</b> Evaluate which of the locations would be the more suitable location. (3 marks)</p>	Candidates must evaluate why one site is better/worse than the other, not just state the issue.

		Most Higher level candidates would achieve at least 1 or 2 marks (2 C-type marks) but fewer would provide three valid evaluations (1 A-type mark).
Justify	<p><b>N5 specimen paper Q14</b>  A decision must be made about whether to grant permission for the proposed quarry development.  Using the evidence from the sources and your knowledge of environmental science, decide whether or not permission should be granted.  Justify your answer. (4 marks)</p>	<p>All final decision-making questions in the Application of Environmental Science section/paper will require justification. The marks are awarded for evaluative commentary, based on supporting evidence and/or personal knowledge.</p> <p>Most candidates would achieve at least 2 marks (2 C-type marks), but fewer would provide four valid points (2 A-type marks).</p>
	<p><b>Higher 2019 paper 1 Q1 (b)</b>  Using information provided above and in Source B, predict the impact that dualling the road will have on road emissions.  Justify your response. (2 marks)</p>	Requires candidates to deduce a possible change (1 C-type mark) and then explain why (1 A-type mark).

## Creating

This type of question requires candidates to bring together parts of knowledge to form new or original work or content.

Command word	Example	Comments
Discuss	At both N5 and Higher level, most unstructured extended-response (essay) questions will fall into this category. The candidates must construct a narrative that demonstrates depth of knowledge and understanding.	<p>A structured extended-response question indicates specific content to be discussed, eg population growth for any given species depends on the initial population size, plus its birth and death rate.</p> <p>Discuss population growth under the following headings:</p> <p>(a) exponential population growth (b) logistic population growth (10 marks)</p> <p>In contrast, the same topic could be framed for an unstructured extended response, eg population growth for any given species depends on the initial population size, plus its birth and death rate.</p> <p>Discuss changes in population growth models in response to changes in limiting factors. (10 marks)</p> <p>The structured question will require detailed discussion of the two models and will have 5 A-type marks.</p> <p>The unstructured question stem provides less guidance and will prove challenging to the majority of candidates; this example will have 6 A-type marks.</p>

Predict	<p><b>N5 specimen paper Q1 (c) is a three-part question.</b></p> <p>(i) Use information from the table to complete a bar graph. (2 marks)</p> <p>(ii) Use the data to predict the nesting buzzard population in 2017. (1 mark)</p> <p>(iii) Suggest how the reliability of the data (relating to the number of buzzards) could be improved. (1 mark)</p>	<p>C-type mark.</p> <p>C-type mark.</p> <p>A-type mark.</p> <p>Note that this question increases in complexity as the candidate progresses through it, requiring them to bring the various pieces of information together.</p>
	<p><b>Higher 2018 paper Q5 (c)(i)</b></p> <p>In 2016 China announced that it would be investing in the extraction of shale gas to meet the country's increasing demand for energy.</p> <p>Predict two impacts this increase in China's shale gas could have on the environment at a global level. (2 marks)</p>	<p>2 C-type marks.</p> <p>The stem relates to China's plan, which candidates would not be expected to know about, but the question relates to global environmental impacts, which candidates should be aware of.</p>
Suggest	<p><b>Higher 2019 paper 2 Q6 (f)</b></p> <p>A driver is planning to purchase a new car. They are concerned with fuel consumption and climate change.</p> <p>They are considering either a petrol-driven or bioethanol-driven vehicle,</p> <p>Using data from the table, suggest which type of vehicle they should purchase.</p> <p>Justify your response. (3 marks)</p>	<p>1 C-type mark and 2 A-type marks.</p> <p>Candidates are required to refer to data relating to their chosen car, using it to justify why their choice is best in terms of fuel consumption and climate change.</p> <p>The mark allocation will rely on the combination of response points provided.</p>

# Appendix 2 – guidance to SQA question writers

## Formatting questions and marking instructions

Use past papers as a reference for how to lay out questions and marking instructions.

- ◆ Numbers less than 0.0001 should be expressed in scientific notation.
- ◆ Clarify the number of significant figures, eg use  $1.20 \times 10^3$  kg rather than 1200 kg. Note that this may change the complexity of a question, depending on level, and whether the mark is C or A-type.
- ◆ Consider how values such as distances should be displayed, eg 1200 cm or 1.2 m.
- ◆ If introducing unfamiliar relationships and defining the variables within the relationship, lay out the relationship and variables as shown below:

$$s = \sqrt{\frac{\sum (x - \bar{x})^2}{N}}$$

where:

- $s$  is the standard deviation
- $n$  is the sample size
- $\bar{x}$  is the mean
- $\Sigma$  is the 'sum of'

- ◆ Mathematical signs, (eg  $\times$  or  $\div$  or  $^\circ$ ) can be found in the Insert Symbol menu.
- ◆ In the marking instructions, enter the expected response in the appropriate column, and any additional guidance in the 'Additional Guidance' column. Refer to past papers to see the type of information provided in each column, and the format the information is presented in.
- ◆ Take care with questions requiring calculated values or information to be carried forward to the next question. Is there a better way of asking the question that requires the same processing but does not disadvantage candidates?
- ◆ For calculations, show the expected response (and units, bracketed if not mandatory) in the 'Expected Response' column, and additional acceptable answers in the 'Additional Guidance' column. This should include, eg the allowed significant figure range, eg where the expected response is 4.5, the additional guidance column should show 'Accept 5, 4.50, 4.501'.
- ◆ For multi-stage calculations, show the working and mark allocation for each stage in the 'Additional Guidance' column.

## Writing questions

In environmental science, each question always starts with a command word.

The table below shows the command words appropriate for use in environmental science papers. These follow Bloom's (revised) taxonomy classifications.

Command word	Definition	N5	Higher
Analyse	Examine methodically and in detail, typically in order to explain and interpret it. Analyse data (possibly including calculations as well as interpretation).		✓
Calculate	Determine a number from given facts, figures, or information.	✓	✓
Compare	Demonstrate knowledge and understanding of the similarities and/or differences between, for example, things, methods, or choices.	✓	✓
Conclude	Arrive at a judgement or opinion through reasoning, based on available evidence.		✓
Construct	Make, build, put together an item, (eg a graph) or an argument.		✓
Decide	Make a choice from a number of alternatives.	✓	✓
Define	Give a statement of the definition.	✓	✓
Describe	Provide a statement or structure of characteristics and/or features. More than an outline or than a list.	✓	✓
Determine	Establish through research or calculation.	✓	✓
Discuss	Communicate ideas and information on a subject. It may be possible to debate the two sides of the statement.		✓
Estimate	Calculate the approximate value, number, quantity, or extent of something.	✓	✓
Evaluate	Make a judgement based on criteria. Determine the value of something.	✓	✓
Explain	Relate cause and effect and/or make relationships between things clear.	✓	✓
Give, list, name, state	Present in brief form.	✓	✓
Identify	Establish or indicate a certain characteristic or feature. Present in brief form.	✓	✓
Interpret	Explain the meaning or significance of something.		✓
Justify	Prove or show to be just, right or reasonable.		✓

Outline	Provide a brief sketch of content. More than naming, but not a detailed description.		✓
Predict	Suggest what may happen in the future or as a consequence, based on available information.	✓	✓
Select	Choose the best or most suitable.	✓	✓
Suggest	Apply knowledge and understanding to a new situation.	✓	✓

It is expected that teachers and lecturers will ensure that candidates are familiar with these command words (appropriate to level) prior to the prelim (and final assessment). Candidates frequently struggle to differentiate between 'describe' (C-type) and 'explain' (A-type), and between 'conclude' and 'evaluate' (both A-type), but this should not be seen as a barrier to their use.

Points to consider when writing questions include the following:

### Wording

- ◆ On **rare** occasions it may be necessary to phrase a question as such in order to avoid complicating the wording, eg 'Why ...? However, use of 'how' can cause regional interpretation issues and therefore should never be used at the start of a question; though it can be used after a command word, eg 'Describe how ...' or 'Explain how ...'.
- ◆ Double commands in a sentence, such as 'state and explain' should not be used, as some candidates may miss the second command word. It is much better to adopt an approach of 'State ...', followed by 'Justify your answer' on the next line.
- ◆ Avoid writing lengthy sentences. If necessary, break the text into shorter sentences and/or separate paragraphs.
- ◆ Be careful with contexts. If you are having to write a lot of information to explain the context to candidates, then it is probably too complicated. On the other hand, a context should not be oversimplified to make it work. The environmental science must still be correct, even if it has been simplified.
- ◆ For the short-response and extended-response sections, try to pick contexts that most candidates will be aware of or familiar with, irrespective of gender, ethnicity, economic circumstances, geographic location, etc. Unfamiliar contexts can still be used but may require careful description and inclusion of useful graphics.  
However, for the application of environmental science section, it is important to pick a context that candidates are less likely to be familiar with, so that they use the data and information provided to answer the questions.
- ◆ Use actual values rather than 'ideal world' values such as 10, 50, etc unless these are the actual values.
- ◆ Always refer to 'students', not 'pupils'.



### **Integrating topic areas**

- ◆ Most questions in environmental science papers have multiple sub-questions. It is important to lead the candidate through the question, typically starting with a straightforward C-type mark sub-question and then building in complexity.

The integration of sub-questions from other topic areas is common in environmental science papers and emphasises the inter-relatedness of the topic areas. However, this is not a requirement in every question and there should be consideration of whether too much 'jumping around' between topics may be detrimental to candidates.

### **Calculations**

- ◆ The range of types of calculation is relatively limited in environmental science; any unfamiliar calculation type should have supporting information so candidates are fully aware of what they must do.
- ◆ Many candidates skip calculation (and graphing) questions on the basis that the marks available do not justify the time required to complete them. This does not mean that only simple or straightforward calculations should be included in a paper, but that supporting information is concise and clear.

### **Diagrams**

- ◆ Only include diagrams or graphics if they enhance the understanding of the question, ie there should be a question(s) that relates to the diagram.

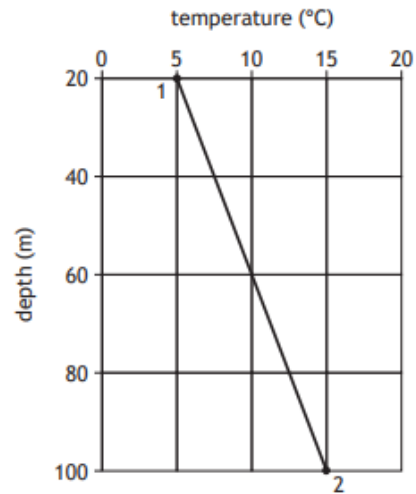
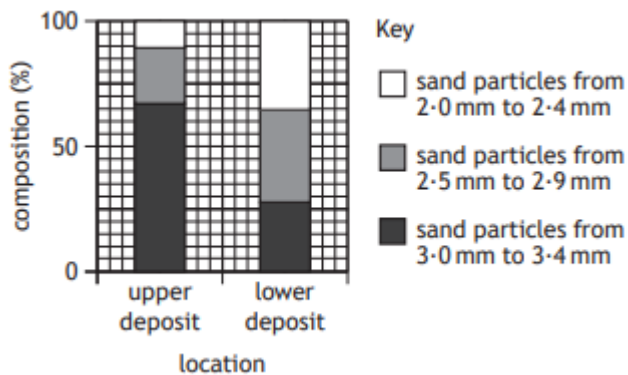
### **Graphs**

The use of bar graphs and line graphs is common in environmental science; pie charts and scatter graphs are not used frequently but are an option.

- ◆ Graph axes should be labelled in lowercase, with the unit in brackets – all in normal font when the labels are written out as words (see example below).
- ◆ When writing axes labels as words, the labels are positioned centrally (unless this interferes with plotting and drawing the line), with vertical axis labels rotated (see example below).
- ◆ Show the origin where applicable. On a bar graph, only the y-axis should show the origin. On a line graph, this should be either as 0 on both axes or as a common 0.

It is also common practice to start a scale at an appropriate non-zero number on the range, as seen in the right-hand example below.

Scale axis breaks are best avoided when writing questions.



- ◆ When based on experimental work, think about the resolution of the measuring instruments when choosing the degree of precision on the scale. If it is likely to be a device that measures to 0.01 then show the scale increments as 0.0, 1.0, 2.0 etc or 0.00, 1.00, 2.00 rather than 0, 1, 2, 3.
- ◆ When showing plotted points, use a small x rather than a dot or one of the large MS Excel symbols.

## Writing sections

### Application of environmental science

The application section is a case study of a topic relevant to environmental science and aligns with some aspect(s) of the mandatory course content.

Care should be taken to find or develop a scenario that candidates are unlikely to be directly familiar with, but where there is sufficient scope for them to demonstrate their knowledge and understanding of environmental science.

Having decided on the case study context, the best place to start is with the final question: what is it that you want candidates to make a decision about? All possible outcomes should be considered, plus the range and types of data and information that would be needed for each option in order to support candidates in their decision-making. If necessary, possible outcomes could be narrowed down to just two or three options, with provision of appropriate supporting data and information.

Data and information intended to support the candidates in their decision-making should be balanced in terms of the number of possible statements (with justification) that could be made for each option, and should not be biased, ie candidates should be able to make their own minds up and not guided in any particular direction.

There is intentional focus on problem solving (S1-S7) in this section, plus a relatively high number of A-type marks. These should be taken into account when constructing the rest of the paper to ensure there is an equal balance of skills and A-type marks **across** the full paper.

The application section concludes with a decision-making question (S6). Candidates should provide statements, with supporting justification, to support their decision.

The rest of the application section should comprise questions focusing on knowledge and understanding (K1-K3), with integration of topic areas where appropriate.

### **Extended-response section (essays)**

Once the application of environmental science section has been prepared, it is a good idea to then decide suitable essay questions.

The wording used should be familiar to candidates, eg using key area terminology presented in the course specification, or include explanatory information, eg a quotation, that directs candidates to the key area.

Essay questions are presented as two pairs of options, with candidates selecting one from each pair.

The first pairing should be presented as structured responses, with both options drawn from the same topic area, eg both from Earth's Resources. The options should be of equal demand.

The second pairing should be presented as unstructured responses, again with both opportunities drawn from the same topic area and of equal demand. This pairing should not cover the same topic area as the structured response options.

Candidates frequently find unstructured essays more challenging to answer than the structured essays. Depending on the complexity of the topic, it may be appropriate to allocate more A-type marks to this pairing.

The key areas covered in the extended-response section must not be covered in other sections of the question paper.

### **Restricted-response section**

The restricted-response section should consist of a mix of knowledge and understanding and problem-solving questions.

There should not be any repetition of skills or key areas, either in this section or across the question paper.

- ◆ At N5, questions in this section should be in the range of 1-3 marks.
- ◆ At Higher level, questions in this section should be in the range of 1-4 marks.
- ◆ Questions worth 3-4 marks at either level will usually include A-type marks and may prove challenging to C-grade candidates; they should therefore be kept to a minimum so that the overall paper does not focus too heavily on extended writing.