

Evaluate whether economic development and the conservation of cold environments are achievable together. (9 marks)

Introducing the question

Students can be introduced to this question using the Kerboodle assessment:

8 On your marks

This will help students to unpick the question and to decide what they should and shouldn't include in their answer.

Using the student resources

The student resources for this question are provided on the following pages. These resources provide flexible support for your students in answering the question. They can be printed and copied as required.

Student resources	Page
<p>Plan your answer</p> <p>This is a planning document to help students decide what to include and how to structure their answer.</p>	3–5
<p>Write your answer</p> <p>This provides an answer sheet for students to complete their answer on paper in class or at home.</p>	6–7
<p>Mark your answer</p> <p>This student-friendly checklist and mark scheme can be used for self- or peer-marking. It can also be used by students in assessing the sample answers.</p>	8–10
<p>Sample answers</p> <p>Five sample answers, at a range of levels, are given. These could be used in a number of ways to demonstrate to students how to maximise their marks for this question.</p>	11–15
<p>Marked sample answers</p> <p>These marked and annotated versions of the five sample answers can be used by students to compare with their own marked sample answers.</p>	16–20

Please note: Students do not automatically have access to the *On your marks* presentation or resources from Kerboodle. If you would like your students to access these resources, or to complete the *On you marks* question on-screen, you will need to assign these to your students in Kerboodle.

continued overleaf

Using the Kerboodle Markbook

If you would like to use the Kerboodle Markbook to monitor progress and record student marks for this question, you must assign **8 On your marks** to the students. Students can type their answer onto the final screen of the presentation and then submit this to the Kerboodle Markbook. Students' marks can then be entered into the Kerboodle Markbook and they will be informed automatically of their mark when they next log in to Kerboodle.

Timing	Spelling, punctuation and grammar (SPaG)
Under exam-style conditions, it should take students around nine minutes to complete their answer to this question.	Three additional marks are available for the accuracy of spelling, punctuation, grammar and use of terminology.

Name _____ Class _____

Evaluate whether economic development and the conservation of cold environments are achievable together. (9 marks)

Before attempting to answer the question, remember to BUG it.

- ✓ **Box** the command word.
- ✓ **Underline** the following:
 - the **theme**
 - the **focus**
 - any **evidence** required
 - the **number of examples** needed.
- ✓ **Glance back** over the question – to make sure you include everything in your answer.



Command word: Identify good and bad points, then make a judgement based on the evidence.

Focus: e.g. mining for metals, oil and gas.

Focus: You need to consider ways of protecting the environment.

Evaluate whether economic development and the conservation of cold environments are achievable together. (9 marks)

Theme: This question is related to the theme of cold environments assessed in Paper 1, Section B of your exam. The question is compulsory.

Number of examples: You must give evidence from more than one cold environment.

Focus: You must consider whether both focuses are achievable at the same time in the same environment.

Name _____ Class _____

PEEL your answer

Use **PEEL** notes to structure your answer. This will help you to communicate your ideas to the examiner in the clearest way.

- **Point** – Make two or three points in detail, rather than lots of points in less detail. Don't use bullet points.
- **Explain** – Give reasons by using sentence starters such as: '*This is because ...*', '*One reason is ...*'.
- **Evidence** – Include facts and other details from named examples to back up your point. Each point – with explanation and evidence – should represent a separate PEE paragraph.
- **Link** – To link different points to each other, use PEE sentence starters such as: 'Another important point is ...' or 'Of more importance is ...'. Make sure your conclusion also links back to the question.



Quality not quantity: You will not be marked simply on the number of points you make, but on the quality of your answer. That means the quality of the content and how well you structure your answer.



SPaG: Three extra marks are available for spelling, punctuation and grammar for this question. So use your best English writing style and check your answer carefully.

Name _____ Class _____

Planning grid

Use this planning grid to help you write high-quality paragraphs. Remember to include links to show how your points relate to each other and to the question.

	PEE paragraph 1	PEE paragraph 2	PEE paragraph 3
Point			
Explain			
Evidence			

PLAN YOUR ANSWER

WRITE YOUR ANSWER

MARK YOUR ANSWER

SAMPLE ANSWERS

MARKED SAMPLE ANSWERS

Name _____ Class _____

Evaluate whether economic development and the conservation of cold environments are achievable together. (9 marks)

PLAN YOUR ANSWER

WRITE YOUR ANSWER

MARK YOUR ANSWER

SAMPLE ANSWERS

MARKED SAMPLE ANSWERS

Name _____ Class _____

Strengths of the answer			
Ways to improve the answer			
Level		Mark	

Name _____ Class _____

Evaluate whether economic development and the conservation of cold environments are achievable together. (9 marks)

This question is assessing the following assessment objectives (AO).

AO1	Testing your knowledge of economic development and conservation in cold environments	3 marks
AO2	Testing your understanding of how economic development and conservation can be achieved cold environments	3 marks
AO3	Testing whether you can use your knowledge and understanding to evaluate geographical information and reach an informed judgement	3 marks

1. To help you to identify if the answer includes detailed points, first highlight or underline the:



Points in **red**



Explanations in **orange**



Evidence in **green**

2. Use the mark scheme on the next page to decide what mark to give. You will not be awarding marks for individual points, but will choose a level and a mark based upon the **quality** of the answer as a whole.

continued overleaf

Name _____ Class _____

Level	Marks	Descriptor	Examples
3 (Detailed)	7–9	<p>AO1: Shows detailed knowledge of the economic development and conservation in cold environments.</p> <p>AO2: Shows thorough understanding of how economic development and conservation can be achieved in cold environments, including whether the impacts of economic development can be reduced.</p> <p>AO3: Shows thorough use of knowledge and understanding in well-developed points to evaluate the issues and make a reasoned judgement.</p>	<p>The Antarctic Treaty was passed in 1961. Nearly 50 countries have signed it and agree to protect Antarctica from pollution, mining and drilling for oil until at least 2048. So far this has stopped any exploitation of the great mineral wealth found in the area.</p> <p>However economic activity does occur in the Antarctic. Boats take tourists to experience the landscape and wildlife. There is a danger that the boats can disturb the wildlife and any oil spills from the boats would be disastrous for the environment. However the treaty controls the amount of tourism and aims to keep disturbance to a minimum.</p> <p>This shows that an international treaty can be used to manage a cold environment and protect it from the negative effects of economic development.</p>
2 (Clear)	4–6	<p>AO1: Shows clear and accurate knowledge of the economic development and conservation in cold environments.</p> <p>AO2: Shows some understanding of how economic development and conservation can be achieved in cold environments.</p> <p>AO3: Shows reasonable use of knowledge and understanding in developed points to consider how the environment can be protected despite economic development. There is likely to be little attempt to evaluate the extent to which this is successful.</p>	<p>The population is increasing so there are more animals grazing the land than the vegetation can support. The vegetation cover is destroyed, leaving the soil open to soil erosion. This leads to desertification.</p> <p>Climate change has brought higher temperatures and less rainfall to some areas. This also causes desertification, but I think that human factors are more important.</p>

Name _____ Class _____

Level	Marks	Descriptor	Examples
1 (Basic)	1–3	<p>AO1: Shows limited and very general knowledge of the economic development and conservation in cold environments.</p> <p>AO2: Shows slight understanding of how economic development and conservation can be achieved in cold environments.</p> <p>AO3: Shows limited use of knowledge and understanding of whether economic development and conservation are achievable together. Simple basic statements are not developed and may be purely descriptive. There will be no attempt to give a judgement.</p>	<p>People go there on holidays. They explore for oil and gas. There are lots of minerals. There are plenty of fish. Numbers of tourists are kept small. Mining is banned.</p>

Name _____ Class _____

Evaluate whether economic development and the conservation of cold environments are achievable together. (9 marks)

Sample answer 1

Cold environments are very fragile. They are easily damaged. Therefore if something like an oil spill takes place when drilling or transporting it, it takes a very long time for the ecosystem to recover. Oil is produced on the north coast of Alaska in the USA. The Exxon Valdez oil tanker crashed and lots of oil leaked into the sea, covering beaches and killing large number of sea birds. The oil has to be transported from the north coast where it is found to the ice free port on the south coast. It goes by pipeline and there is always a danger this pipeline will break. Tourists like to visit places like Antarctica. However there is a danger that they will leave rubbish and also disturbs the wild life. Economic development should not be allowed in cold environments.

Strengths of the answer			
Ways to improve the answer			
Level		Mark	

Name _____ Class _____

Evaluate whether economic development and the conservation of cold environments are achievable together. (9 marks)

Sample answer 2

Cold environments have lots of valuable things. Mining companies want to dig them up. They will pollute the area. Because there will be slag heaps left. In svalbard there is coal. Coal is a non-renewable way of making electricity. Electricity in these areas should be made from renewable energy. Then there will be no emissions of greenhouse gases. These cause global warming and the ice sheets melt. Tourists arriving on cruise ships frighten the wildlife so they do not breed. The Antarctic Treaty helps to conserve the environment. Many countries have signed this treaty. Oceans in cold environments are rich in fish. Lots of trawlers go to fish in these waters. They take to many fish and so the amount of fish goes down. This is called overfishing. People should be told not to catch so many fish.

Strengths of the answer			
Ways to improve the answer			
Level		Mark	

Name _____ Class _____

Evaluate whether economic development and the conservation of cold environments are achievable together. (9 marks)

Sample answer 3

Cold environments, such as the Arctic and the Antarctic, are very special areas with unique ecosystems. Due to the low temperatures these ecosystems take a long time to recover if anything badly affects these areas.

These areas do experience some economic development in order to provide jobs and/or meet other human needs. The three possible forms of economic development are tourism, fishing and mineral exploitation.

The numbers of tourists going to Antarctica are increasing all the time. The tourists can threaten and disturb the wildlife they have come to see. There is always the danger of a ship hitting an iceberg and spilling oil and so polluting the area. However tourism can be regulated so that the environment does not suffer. IAATO restricts the number of people allowed on shore. Tour operators are not allowed to leave any rubbish behind.

There are rich cod fishing grounds around Svalbard in the Arctic. It would be very easy for the sea to become overfished. Fortunately, Norway and Russia monitor the amount of fish caught and make sure that the stocks are not reduced.

In Antarctica there are vast amounts of minerals under the ice, including oil and gas. However, the Antarctic Treaty, signed by 50 countries, has banned any mining or drilling for oil up to the middle of this century at least. This should protect the environment from being damaged or polluted.

This shows that with careful planning it is possible to conserve cold environments at the same time as economic development takes place.

Strengths of the answer			
Ways to improve the answer			
Level		Mark	

Name _____ Class _____

Evaluate whether economic development and the conservation of cold environments are achievable together. (9 marks)

Sample answer 4

People live in cold environments like the Arctic and want to visit other cold environments such as Antarctica. So there is bound to be some economic development.

Tourism means that there is a danger of a serious pollution incident in the future. The way to conserve the area is not to stop tourism but to limit the number and size of ships. In Antarctica, ships carrying more than 500 people are not allowed to land anywhere and only 100 people should be onshore at any one time so that the wildlife is not disturbed.

Coal is mined in Svalbard in the Arctic and this is an important source of greenhouse gases. In some areas, such as Iceland, geothermal energy can replace coal as a source of electricity so reducing pollution.

Strengths of the answer			
Ways to improve the answer			
Level		Mark	

Name _____ Class _____

Evaluate whether economic development and the conservation of cold environments are achievable together. (9 marks)

Sample answer 5

There are any tribes living in cold environments like the Arctic that depend on the wildlife and survive by hunting and fishing. If large trawlers catch all the fish then there will be none left for people like the Inuit. Countries monitor and make sure that not too many fish are caught.

Also the beauty of cold environments, which are wilderness areas make them very attractive for tourists. If too many tourists visit the area they will spoil the beauty of the area and disturb the birds like the penguins. IATTO make sure that cruise ships do not carry do many people and make them carry their dirty water back to the port where they came from and not dump it in the sea in Antarctica.

Oil is found in many cold areas, but oil spills have a very bad effect on these area. The vegetation is destroyed and there is a danger of fire. All fish in the rivers are killed. There are many minerals found in Antarctica. The Antarctic Treaty stops them being mined.

Strengths of the answer			
Ways to improve the answer			
Level		Mark	

Name _____ Class _____

Evaluate whether economic development and the conservation of cold environments are achievable together. (9 marks)

Sample answer 1

Cold environments are very fragile. They are easily damaged. Therefore if something like an oil spill takes place when drilling or transporting it, it takes a very long time for the ecosystem to recover. Oil is produced on the north coast of Alaska in the USA. The Exxon Valdez oil tanker crashed and lots of oil leaked into the sea, covering beaches and killing large number of sea birds. The oil has to be transported from the north coast where it is found to the ice free port on the south coast. It goes by pipeline and there is always a danger this pipeline will break. Tourists like to visit places like Antarctica. However there is a danger that they will leave rubbish and also disturbs the wild life. Economic development should not be allowed in cold environments.

Point: Recognises the overall problem.

Point: Identifies a particular problem.

Evidence: Use of case study is not required by the question but is credit worthy. Also identifies hazard of leaks at sea.

Point: Identifies another hazard, of leaks on land.

Point: Identifies another form of economic development and its potential for damage.

Point: Attempts a conclusion.

Feedback: This basic answer considers a range of hazards posed by different forms of economic development without any suggestion of how to mitigate its effects or other forms of conservation. The attempted concluding judgement is not based on any sort of evaluation.

Spelling and punctuation are used with considerable accuracy, with only a few errors (see underlined text). The rules of grammar are used with general control of meaning, but sentence construction could be clearer in places. A good range of specialist terms are used appropriately.

Level = 1 Marks = 2 SPaG = 2

Name _____ Class _____

Evaluate whether economic development and the conservation of cold environments are achievable together. (9 marks)

Sample answer 2

Cold environments have lots of valuable things. Mining companies want to dig them up. They will pollute the area. Because there will be slag heaps left. In svalbard there is coal. Coal is a non-renewable way of making electricity. Electricity in these areas should be made from renewable energy. Then there will be no emissions of greenhouse gases. These cause global warming and the ice sheets melt. Tourists arriving on cruise ships frighten the wildlife so they do not breed. The Antarctic Treaty helps to conserve the environment. Many countries have signed this treaty. Oceans in cold environments are rich in fish. Lots of trawlers go to fish in these waters. They take to many fish and so the amount of fish goes down. This is called overfishing. People should be told not to catch so many fish.

Point: Identifies one type of economic development and its impact.

Explanation: Not relevant, possible confusion with coal.

Evidence: Identifies relevant location and resource.

Point: Identifies an appropriate response to coalmining as a means of saving damage to the environment.

Explanation: Explains the effects of greenhouse gases, but irrelevant to the question.

Point: Identifies another type of economic development.

Point: Considers conservations but does not how the environment is conserved.

Point: Identifies a further example of economic development.

Point: Indicates a vague idea of quotas, but gives a simplistic response.

Feedback: Most of this answer is a series of simple statements but there are clear attempts to relate coalmining and overfishing to ways of mitigating their effects.

Spelling and punctuation are used with reasonable accuracy, but a number of mistakes are included (see underlined text). The rules of grammar are used with some control of meaning and the errors do not significantly hinder meaning. There are missed opportunities to include specialist terms e.g. 'resources' instead of 'things'.

Level = 2 Marks = 4 SPaG = 1

Name _____ Class _____

Evaluate whether economic development and the conservation of cold environments are achievable together. (9 marks)

Sample answer 3

Cold environments, such as the Arctic and the Antarctic, are very special areas with unique ecosystems. Due to the low temperatures these ecosystems take a long time to recover if anything badly affects these areas.

These areas do experience some economic development in order to provide jobs and/or meet other human needs. The three possible forms of economic development are tourism, fishing and mineral exploitation.

The numbers of tourists going to Antarctica are increasing all the time. The tourists can threaten and disturb the wildlife they have come to see. There is always the danger of a ship hitting an iceberg and spilling oil and so polluting the area. However tourism can be regulated so that the environment does not suffer. IAATO restricts the number of people allowed on shore. Tour operators are not allowed to leave any rubbish behind.

There are rich cod fishing grounds around Svalbard in the Arctic. It would be very easy for the sea to become overfished. Fortunately, Norway and Russia monitor the amount of fish caught and make sure that the stocks are not reduced.

In Antarctica there are vast amounts of minerals under the ice, including oil and gas. However, the Antarctic Treaty, signed by 50 countries, has banned any mining or drilling for oil up to the middle of this century at least. This should protect the environment from being damaged or polluted.

This shows that with careful planning it is possible to conserve cold environments at the same time as economic development takes place.

Point: Clearly shows understanding of the value of these areas.

Evidence: Identifies appropriate locations.

Point: Establishes why economic development occurs and identifies three types.

Explanation: Details why tourism is a threat.

Point: Identifies a response to the threat.

Evidence: Two examples of responses.

Explanation: Identifies the potential problem with fishing.

Evidence: Example of conservation response.

Explanation: Identifies a potential third threat.

Evidence: Gives an appropriate conservation response.

Point: Summarises, links back to the question and gives a reasoned judgement.

Feedback: This detailed answer considers various types of economic development and in each case attempts to show how plans for conservation can be incorporated in order to conserve the environment.

Spelling and punctuation are used with consistent accuracy. The rules of grammar are used with effective control of meaning.

Level = 3 Marks = 9 SPaG = 3

Name _____ Class _____

Evaluate whether economic development and the conservation of cold environments are achievable together. (9 marks)

Sample answer 4

People live in cold environments like the Arctic and want to visit other cold environments such as Antarctica. So there is bound to be some economic development.

Evidence: Identifies two relevant locations.

Point: Clear link to the question.

Tourism means that there is a danger of a serious pollution incident in the future.

Point: Identifies a potential threat from tourism.

The way to conserve the area is not to stop tourism but to limit the number and size of ships. In Antarctica, ships carrying more than 500 people are not allowed to land anywhere and only 100 people should be onshore at any one time so that the wildlife is not disturbed.

Explanation: Offers a response to the threat.

Evidence: Good examples from the 2013 Polar Code.

Coal is mined in Svalbard in the Arctic and this is an important source of greenhouse gases. In some areas, such as Iceland, geothermal energy can replace coal as a source of electricity so reducing pollution.

Point: Identifies another potential threat.

Evidence: Realistic response to the threat in named location.

Feedback: This clear answer considers two specific threats posed by the economic development of two cold environments and the ways in which the worst effects could be overcome. However there is no attempt to evaluate the extent to which these strategies are achievable together or offer a judgement.

Spelling and punctuation are used with consistent accuracy. The rules of grammar are used with effective control of meaning.

Level = 2 Marks = 6 SPaG = 3

Name _____ Class _____

Evaluate whether economic development and the conservation of cold environments are achievable together. (9 marks)

Sample answer 5

There are any tribes living in cold environments like the Artic that depend on the wildlife and survive by hunting and fishing. If large trawlers catch all the fish then there will be none left for people like the Inuit. Countries monitor and make sure that not too many fish are caught.

Also the beauty of cold environments, which are wilderness areas make them very attractive for tourists. If too many tourists visit the area they will spoil the beauty of the area and disturb the birds like the penguins. ATTO make sure that cruise ships do not carry do many people and make them carry their dirty water back to the port where they came from and not dump it in the sea in Antartica.

Oil is found in many cold areas, but oil spills have a very bad effect on these area. The vegetation is destroyed and there is a danger of fire. All fish in the rivers are killed. There are many minerals found in Antartica. The Antartic Treaty stops them being mined.

Point: Identifies a potential threat.

Evidence: Identifies named location.

Evidence: Identifies appropriate tribe.

Evidence: Identifies response to the threat, although rather vague.

Point: Identifies another potential threat.

Evidence: Identifies an appropriate breed of bird and a response to the threat.

Point: Identifies another potential threat.

Explanation: Explain the threat in more detail.

Evidence: Identifies legal response to the threat.

Feedback: This clear answer considers different types of economic development and possible means of dealing with them, although in rather a simplistic way. There is no attempt to consider whether the conservation measures are effective or to offer a judgement.

Spelling and punctuation are used with considerable accuracy, but errors do occur (see underlined text). Acronyms should be spelt out in full at least once in the answer. The rules of grammar are used with general control of meaning. A range of specialist terms are used, but there are opportunities for more e.g. pollution, overfishing, exploitation.

Level = 2 Marks = 4 SPaG = 2