

Learner Guide

Cambridge International AS & A Level Geography 9696

For examination from 2018



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Section 1: Syllabus content – what you need to know

This guide explains what you need to know about your Cambridge International AS & A Level Geography course and examination. It will help you plan your revision programme and will help to show you what we are looking for in the answers you write.

It can also help you revise by giving you a revision check list in Section 5, where you can tick off topics you have been taught and you have learned for the examination.

By studying this Cambridge International AS & A Level course you will develop:

- an understanding of the principal processes operating within physical geography and human geography
- an understanding of the causes and effects of change on natural and human environments
- an awareness of the usefulness of geographical analysis to understand and solve contemporary human and environmental problems
- the ability to handle and evaluate different types and sources of information
- the skills to think logically, and to present an ordered and coherent argument in a variety of ways
- an excellent foundation for studies beyond Cambridge International A Level in Geography, in further or higher education, and for professional course.

We recommend that you have previously studied on and completed a Cambridge O Level or Cambridge IGCSE or an equivalent level of study in Geography.

For this Cambridge International AS Level Geography course you will study Core Physical and Core Human Geography. And for the Cambridge International A Level Geography course you will study Advanced Physical and Advanced Human Geography.

Make sure you always check the latest syllabus which is available at www.cambridgeinternational.org

Section 2: How you will be assessed

About the examinations

For AS Level you will take Paper 1 and Paper 2.

For the full A Level you will take Paper 1 and Paper 2, as well as Paper 3 and Paper 4.

Find out from your teacher which papers you will be taking, and when you will be taking them.

About the papers

The table below gives you further information about the examination papers:

Paper	Time and marks	Questions	% of total mark	What is tested and % of total mark
Paper 1 Core Physical Geography	1 hour 30 minutes (60 marks)	You answer questions from two sections, Section A and Section B. In Section A, you need to answer all three data response questions on Core Physical topics. Each question is worth 10 marks. In section B you will answer one structured question from a choice of three, worth 30 marks.	50% if AS Level 25% if A Level	Knowledge 30% Understanding and application 30% Skills 28% Evaluation 12%
Paper 2 Core Human Geography	1 hour 30 minutes (60 marks)	You answer questions from two sections, Section A and Section B. In Section A, you need to answer all three data response questions on Core Human topics. Each question is worth 10 marks. In section B you will answer one structured question from a choice of three, worth 30 marks.	50% if AS Level 25% if A Level	Knowledge 30% Understanding and application 30% Skills 28% Evaluation 12%
Paper 3 Advanced Physical Geography Options	1 hour 30 minutes (60 marks)	You will answer questions on two different optional topics. Each topic will have one structured question (worth 10 marks) and a choice of two essay questions (worth 20 marks).	25% A Level	Knowledge 20% Understanding and application 20% Skills 20% Evaluation 40%

Paper	Time and marks	Questions	% of total mark	What is tested and % of total mark
Paper 4 Advanced Human Geography Options	1 hour 30 minutes (60 marks)	You will answer questions on two different optional topics. Each topic will have one structured question (worth 10 marks) and a choice of two essay questions (worth 20 marks).	25% A Level	Knowledge 20% Understanding and application 20% Skills 20% Evaluation 40%

Information about each paper

Paper 1 tests the three Core Physical Geography topics:

- Hydrology and fluvial geomorphology
- Atmosphere and weather
- Rocks and weathering

There are two sections:

Section A (30 marks) contains **three** questions. You must answer all of them. Each question is worth 10 marks, and includes a geographical resource. You must try to answer each question equally well.

The questions make use of resources such as maps, graphs, photographs, diagrams, data tables and sometimes survey maps (1:25 000 and 1:50 000) so you should practice your skills and ability to understand and write about these. You may be asked to draw and label appropriate diagrams and sketch maps, so you should practice this.

Section B (30 marks) contains **three** longer structured questions. You must answer only **one** of them.

There will be a question on each physical core topic.

Paper 2 tests the three Core Human Geography topics:

- Population
- Migration
- Settlement dynamics

Section A (30 marks) contains three questions. You must answer **all** of them. Each question is worth 10 marks, and includes a geographical resource. You must try to answer each question equally well. Here questions may cover two or more topics because there are strong interrelationships between all three topics.

The questions make use of resources such as maps, graphs, photographs, diagrams, data tables and sometimes survey maps (1:25 000 and 1:50 000) so you should practice your skills and ability to understand and write about these. You may be asked to draw and label appropriate diagrams and sketch maps, so you should practice this.

Section B (30 marks) contains three longer structured questions. You must answer only **one** of them. You are expected to use examples and case studies from HICs (high income countries) MICs (middle income countries) and LICs (low income countries).

Paper 3 and Paper 4

These are separate question papers. **Paper 3** has twelve questions on the Advanced Physical Geography topics below (three on each topic). You must answer questions on **two** different topics. You choose two topics and you must answer the question worth 10 marks, and **one of the two** questions worth 20 marks.

The Advance Physical Geography topics are:

- Tropical environments
- Coastal environments
- Hazardous environments
- Hot arid and semi-arid environments

Paper 4 has twelve questions on the Advanced Human Geography topics below (three on each topic). You must answer questions on **two** different topics. You choose two topics and you must answer the question worth 10 marks, and **one of the two** questions worth 20 marks.

The Advanced Human Geography topics are:

- Production, location and change
- Environmental management
- Global interdependence
- Economic transition

In both Paper 3 and Paper 4 there is one 10 mark question, and two 20 mark questions in each topic. For two topics you must answer the resource based question (10 marks).

You also have a choice of two essay questions and you must answer one of them on the same topic as your 10 mark question.

The 10 mark question in each topic will make use of resources such as maps, graphs, photographs or diagrams. You will use these resources to show your understanding of geographical ideas. It will not matter if you have not studied the place/example in a resource as you are only expected to interpret information and show ideas that can be used in any similar situation.

You need to organise your writing well and use relevant case studies or developed examples. The essay questions (20 marks) require you to use your skills of evaluation.

Revision

Make sure you study and revise enough to really have a choice of topics and questions in the examination. Revise everything in a basic manner, so you are prepared for any question, but then specialise in your strongest topics.

Section 3: What skills will be assessed

The examiners take account of the following skills areas (**assessment objectives**) in the examination papers

- Knowledge
- Understanding and application
- Skills
- Evaluation

It is important that you know the different weightings (%) of the assessment objectives, as this affects how the examiner will assess your work. For example, assessment objective 4 (AO4: Evaluation) is worth 12% of the total marks in Paper 1, and 12 % of the total marks in Paper 2. However, in Paper 3 and Paper 4, AO4 is worth 40% of the total marks.

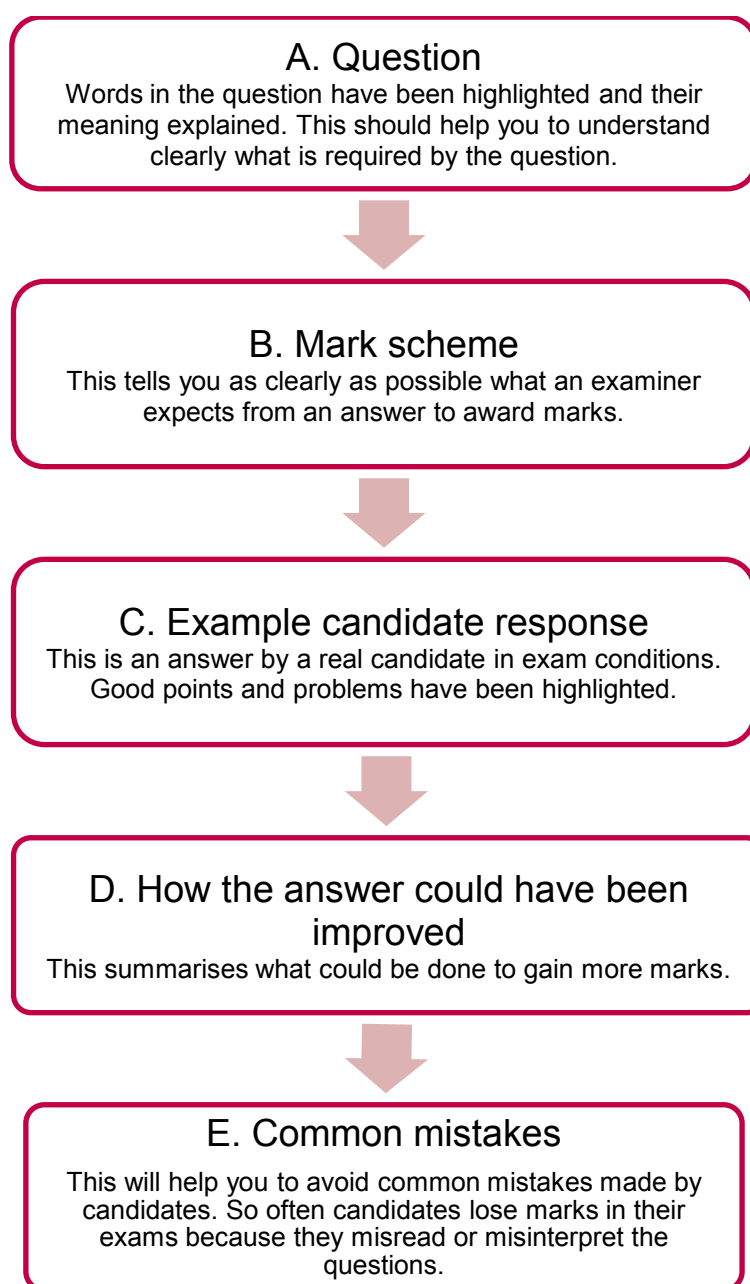
Assessment objectives (AO)	What does the AO mean?	What do you need to be able to do?
AO1 Knowledge	Remembering facts and ideas	1.1 give definitions and explanations of relevant geographical terms and concepts 1.2 show working knowledge of relevant principles, theories and models 1.3 recall accurately the location and character of places and environments 1.4 show knowledge of physical and human processes and factors.
AO2 Understanding and application	How you use what you know and relate it to unfamiliar situations	2.1 understand the complex and interactive nature of physical and human environments 2.2 understand how processes bring changes in systems, distributions and environments 2.3 recognise the significance of the similarities and differences between places, environments and people. 2.4 recognise the significance of spatial scale and time scale 2.5 apply geographical understanding to unfamiliar contexts.
AO3 Skills	How you study data and come to conclusions about it	3.1 interpret a variety of types of geographical data and sources and recognise their limitations. 3.2 Use geographical data to identify trends and patterns 3.3 Use diagrams and sketch maps to illustrate geographical features 3.4 demonstrate skills of analysis and synthesis of geographical information 3.5 communicate geographical evidence, ideas and arguments
AO4 Evaluation	How you assess, judge and consider information in different contexts.	4.1 assess the effects of geographical processes and change on physical and human environments 4.2 consider the relative success or failure of initiatives 4.3 assess how the viewpoints of different groups of people, potential conflicts of interest and other factors interact in the management of physical and human environments 4.4 critically evaluate geographical principles, theories and models

Section 4: Example candidate response

This section takes you through an example question and learner response. It will help you to see how to identify words within questions and to understand what is required in your response. Understanding the questions will help you to know what you need to do with your knowledge, for example, you might need to describe something, explain something, argue a point of view, apply the knowledge in a different way, or list what you know.

All information and advice in this section is specific to the example question and response being demonstrated. It should give you an idea of how your responses might be viewed by an examiner but it is not a list of what to do in all questions. In your own examination, you will need to pay careful attention to what each question is asking you to do.

This section is structured as follows.



A. Question

Identify The examiner will be expecting you to give the name of feature A and B in Fig. 1.

Hydrology and fluvial geomorphology

1 Fig. 1 shows features of a meander on the River Swale in North Yorkshire, UK.

(a) **Identify** the features labelled in Fig. 1.

(i) **A**

(ii) **B**

[2]

(b) **Describe** the processes that lead to the features you have identified in (a).

[5]

(c) Briefly **explain** how a floodplain is formed.

[3]

Explain The examiner will be expecting you to set out the causes of the formation of a floodplain.

Describe The examiner will be expecting you to give the key characteristics of the processes that lead to the formation of the features shown in Fig. 1.



Fig. 1

A meander on the River Swale in North Yorkshire, UK

B. Mark scheme

All the questions in Paper 1, Section A are point marked. This means that one mark can be gained for each separate point made. No additional marks are available for the same point stated in a different way, or if more points are made than there are marks available.

Question	Answer	Marks
1(a)(i)	Identify the features labelled in Fig. 1. A River cliff	1
1(a)(ii)	B Point bar / slip off slope	1
(b)	Describe the processes that lead to the features you have identified in (a) Credit can be given to diagrams where they help illustrate an answer. River cliff Velocity is fastest on the outer bend of the river where the channel is deeper and there is less friction. (1) This is due to the water being flung towards the outer bend as it flows around the meander. (1) This causes greater friction, which results in more erosion which deepens the channel. (1) This lateral erosion results in undercutting of the river bank (1) and the formation of a steep sided river cliff. Point bar On the inner bend water is low velocity (1) being a low energy zone, deposition occurs resulting in a shallower channel (1). This increase of friction further reduces the velocity (thus further reducing energy) (1), encouraging further deposition. Over time a small beach of material builds up on the inner bend (1); this is called a point bar/slip off slope.	5

Question 1a

You need to learn the terms and features which are specified in the syllabus as well as additional terms which would be expected to help give and explain answers for that topic.

Question 1b

The answer here is explaining the processes which lead to the features.

The use of key terms in the mark scheme help to guide the examiner as to what to expect in an answer.

You are expected to use geographical terms, such as friction, lateral erosion, velocity, undercutting.

As this paper is point marked, where you see a (1) in the text, this means that you can gain a mark if your answer included the point which was immediately before it.

Remember that the point can be phrased differently, or be from an annotation in the diagram that you may have drawn.

Question	Answer	Marks
<p>1 (c)</p>	<p>Briefly explain how a floodplain is formed.</p> <p>Candidates may suggest:</p> <ul style="list-style-type: none"> • Meander migration erodes the valley floor over time, to create a wider and flatter valley (lateral erosion) (1) • Sediment is transported within the river (by solution and suspension) or along the river bed (by saltation and traction). When a river floods over the surrounding land it loses energy and deposition occurs. (1) • This process is repeated, causing a build-up of sediment on the flood plain (1) <p>Reference to the shallower depth of water flowing over the surface results in frictional drag and a reduction in velocity (speed of flow).</p> <p>As the floodwater loses energy, the capacity and competence of the floodwater is reduced, leading to deposition.</p> <p>The heaviest materials (bedload) are deposited first nearest the channel, as these require the most energy to be transported and therefore build up around the sides of the river forming raised banks known as levees. Finer material such as silt and clay continue to flow further over the floodplain before they are deposited (alluvium).</p> <p>Regular flooding results in the building of layers of nutrient rich alluvium which forms a flat and fertile floodplain.</p> <p>The slopes of the river valley border the edge of the floodplain. These slopes are known as the bluff line, and mark the edge of the floodplain.</p> <p>The width of the flood plain is a result of the meander migration and lateral erosion.</p> <p>Answer may be via a well annotated diagram.</p>	<p>3</p>

Question 1c

The word 'briefly' in the question helps to indicate to you that a full and detailed explanation is not required, as explaining how a floodplain is formed could be quite lengthy.

The mark scheme includes more guidance to help show range of answers that could be given and gain credit.

Question 1c

The bullet points suggest the three basic points that a good answer would include.

Lateral erosion (helping to widen the valley floor and create the area of floodplain).

Sediment deposition on the flood plain (once bank full is reached and the river floods) and then the repetition of the flooding event to allow the floodplain to build up.

Now let's look at the sample candidate's response to the question and the examiner's comments.

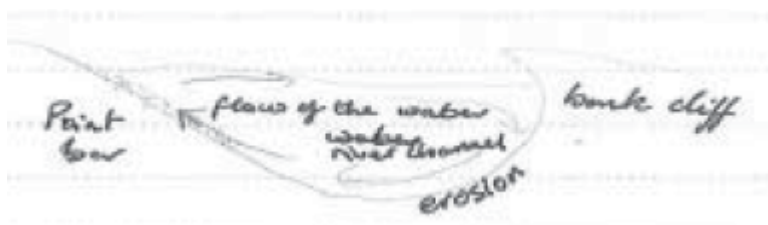
C. Example candidate response and examiner comments

Question 1

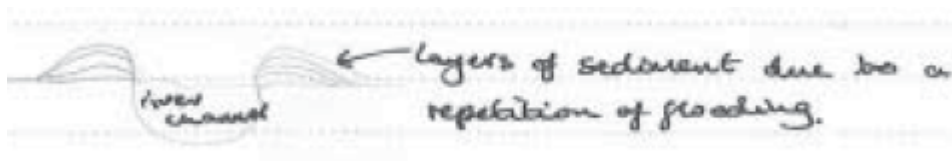
a.(i) Levee

(ii) Point bar

b. A point bar can occur due to secondary flow of a river. This is called the helicoidal flow ¹ in which fast velocity water erodes the outside of the meander. ² This water collects ³ sediment and can transport it on the bottom of the river where it loses velocity on the outside of the meander. Due to the loss of velocity, the sediment is then deposited thus creating a point bar.



A levee can be created natural or man-made. A levee can form natural due to repetition of a flood. ⁴ This is when a river exceeds its bank full discharge and deposits the sediment on a flood plain up to the river bluffs. ⁵ The levee can be built higher due to the repetition of the process in which a levee can be built up by layers.



c. a floodplain is formed when a river experiences high levels of water and exceeds its bankfull discharge. A floodplain ends at the river bluffs. The land which is flooded experiences deposition and sediment is deposited when the water infiltrates the floodplain. ⁶

¹ Helicoidal flow is a secondary flow which helps to transport the material from the outside of the bend to the inside. Make sure your definition is clearly understood.

² Using two sentences here will help, so that helicoidal flow is not interpreted to be the fast velocity.

³ The candidate here should use the term 'erodes' or 'entrains' and not 'collects'.

⁴ The focus needs to be on the processes rather than the classification of the feature.

⁵ Good use of terms, although this information is relevant for the next question. Make sure you read all the questions carefully.

⁶ Geographical terms are used such as bankfull discharge, bluff, infiltration. Clarity needed on when deposition of sediment happens, and when the sediment that has been deposited is visible. Infiltration does not directly cause sediment deposition.

Total mark awarded = 5 out of 10

How the answer could have been improved

- 1 (a)(i)** The candidate incorrectly identifies feature A. The position of the label A is important, as it is below bankfull, and is part of the vertical channel profile. A levée is a feature beside the channel rather than within it.
- 1 (b)** The specific processes are erosion, transportation and deposition. The candidate mentions erosion, but does not give detail as to the type of erosion. Other specific detail is missing, for example the way that the deposition process can result in the different sizes of sediment being deposited within the point bar in different places. The candidate focuses on the result of helicoidal flow, rather than writing about the range of processes, which together, form the point bar.
- There is opportunity, through describing the second feature, to gain more marks. However, the landform of a levee was not correctly identified from the figure. Whilst clearly described, does not help focus on the description of the processes which lead to the formation of the feature. The candidate includes material when describing levées which would have been better placed in the answer for q1(c). No credit is given here for material which could be credited in the next question.
- 1 (c)** The candidate mentions that deposition occurs, but does not explain why. They correctly identify the term river bluffs, but again don't link it is with the explanation of the formation of flood plains (relating to meander migration and lateral erosion). The candidate needed to suggest that there are repeated flooding events. The candidate does use some terms, such as bankfull and velocity, however they could increase their use of terminology, such as with the terms: loss of energy, suspended load, alluvium.

Common mistakes

One common mistake is not appreciating the value of an annotated diagram, especially for q 1(b) as this can be credited as part of the marks for description, and may help the candidate to fully describe the processes which lead to the formation of the landforms.

Another common mistake is for candidates not to revise, and use, the terms that are contained within the syllabus. The terms need to be known as definitions and used more within the answers. Key words both within and outside of the syllabus need to be used more to support the answers, with examples, and case studies (where more detail is requested) being learnt alongside the theory.

General advice

In order to do your best when answering a question, make sure you read the question very carefully. Make note of the command words (question words, e.g. identify, explain, etc.) in the question. A command word 'describe' is different to 'explain'. Words like 'evaluate' or 'examine' mean bringing in opinions and evidence. Therefore command words change the nature of the answer.

Diagrams are useful and can help you describe concepts, processes or theories more clearly than sometimes words can do. Diagrams can be used when they help to illustrate the answer, even when they are not specifically asked for.

Where a certain number of ideas or points are requested for the answer, then that number needs to be given. Any more won't be credited.

Your answer can be structured in such a way as to highlight each point being made, such as starting a new line for each additional point.

Use the terms which you have learnt to help answer the questions.

Allow time in the exam to check through your work.

Section 5: Revision

This advice will help you revise and prepare for the examinations. It is divided into general advice for all papers and more specific advice for Paper 1, Paper 2, Paper 3 and Paper 4.

Use the tick boxes to keep a record of what you have done, what you plan to do or what you understand.

General advice

Before the examination

Find out when the examinations are and plan your revision so you have time to revise. Draw up a revision timetable and divide it into sections to cover each topic.

Find out how long each paper is, how many questions you have to answer, how many marks there are for each question and work out how long you have for each question.

Find out the choices you have on each paper, make sure you know how many sections there are and which sections you should answer from.

When there is a choice of questions in a section, make sure you revise enough to have a choice.

Work for short periods then have a break. Revise small sections of the syllabus at a time.

Make revision notes. Try different styles of notes. Find out what works best for you.

Test yourself by writing out key points, redrawing diagrams, etc.

Know the meaning of the command words used in questions and how to apply them to the information given. These are listed at the end of the syllabus. Look at past examination papers and highlight the command words and check what they mean.

Make sure you define geographical terms accurately. E.g. *deforestation* is not simply 'cutting down trees', it is 'the total deliberate removal or clearance of forest/trees by cutting and/or burning at rates faster than natural regeneration or without replanting'.

Definitions must not reuse the words to be defined. E.g. *land pollution* means the contamination (*pollution*) of the earth's surface (*land*) by the unplanned or illegal disposal of waste substances.

Make your own dictionary or draw up a glossary of key terms for each section of the syllabus.

Look at maps, diagrams, tables, etc. to find out what they show; e.g., recognising landforms and settlement patterns on maps and photographs.

Practise drawing clear, simple, neat, fully-labelled diagrams and maps.

Learn your case studies thoroughly. What do they show? How you might use them? Where in the world are they? Are they local, regional, international or global scale? Make a list of case studies for each section of the syllabus. Look at past questions and decide which case study would be best to answer each one. Know your own local case studies, whenever possible.

Learn to spell geographical terms correctly.

Have a look at past questions so that you are clear of what to expect in an examination.

Look at mark schemes to help you to understand how the marks are awarded for each question.

In the examination

Read the instructions carefully and answer the right number of questions from the right sections.

Do not answer more questions than are needed, as this will not gain you more marks in the examination.

Plan your time according to the marks for each question. For example, a question worth three marks requires less time and a shorter answer than one worth ten marks. If a question has several parts, then the parts with more marks will need more time and more developed answers.

Do not leave out questions or parts of questions. Remember, no answer – no mark.

Read each question very carefully.

- Identify the command words – you could underline or highlight them.
- Identify the other key words and perhaps underline them too.
- Try to put the question into your own words to understand what it is really asking.

Read all parts of a question before starting your answer. Think carefully about what is needed for each part. You will not need to repeat material.

Look very carefully at the resource material you are given.

- Read the title, key, axes of graphs, etc. to find out exactly what it is showing you.
- Look for dates, scale, and location.
- Try using coloured pencils or pens to pick out anything that the question asks you about.

Answer the question. This is very important!

- Use your knowledge and understanding.
- Do not just write all you know, only write what is needed to answer the question.

Plan your answers. Clear, concise, well-ordered, well-argued, well-supported answers get more marks than long, rambling, muddled, repetitious answers. Quality is better than quantity.

Use geographical terms in your answers as much as possible.

Use the resource material given in the question to support your answer.

Annotated maps, diagrams and graphs can help you, and be used to support your answer. Use them whenever possible but do not then repeat the information in words.

Use case-study material even when it is not required specifically by the question. Case studies and examples can come from your home area.

Make sure your writing is clear and easy to read. It is no good writing a brilliant answer if the examiner cannot read it!

Paper 1 and Paper 2 advice

Make sure you are familiar with all the core topics.

Work out how much time you have for each section and keep to it.

If a question asks for two challenges, then avoid writing about more than two.

Be prepared to use map reading, graph reading, diagram reading skills.

You can use diagrams to describe: A well-labelled diagram can show the characteristics of a landform such as a delta. Try to make your diagrams as accurate and informative as possible.

Where a labelled sketch of a figure is required you must base it on what is shown on the insert and not on a textbook diagram.

Use information from the resource to support your answer in the data response questions. This adds substance and achieves marks. Try to use the resource as fully as you can in your answers.

Make sure you know your case studies and can use these to demonstrate your understanding of a concept when required.

There are some common misunderstandings. To help check your own understanding, make sure you know the difference between

- *rate and amount*
- *volcanoes and fold mountains*
- *island arcs and volcanic hot spots*
- *river channel and catchment (drainage basin)*
- *hydrolysis and hydration*
- *solution and suspension,*
- *urbanisation and rural – urban migration*
- *a cross-section, a plan and a profile.*

Know examples, especially from your home area; you will write more convincingly if you are familiar with an area.

Use general concepts and key ideas to help you to consider all factors. For example, within Paper 1 for landforms consider rocks (type and structure), processes and time. Think about physical, environmental, social, economic, and political factors within Paper 2.

Paper 3 and Paper 4 advice

Read the question, so you are clear about the level of detail required for each question.

Evaluation is an essential skill; make sure you understand how to tackle questions such as those that

Look at each question carefully and break it down – for example, look at the command word, the key idea and the scale/context of the question.

Look at the wording of past questions and check for terms that may be unfamiliar.

Practise your evaluative/assessment skills; they are needed throughout the paper. You can assess in terms of degree of success or failure, the past versus the present, unforeseen results, different spatial outcomes, effects on different groups of people, relative importance of different factors.

Take note of the command words – e.g. be sure that you are clear whether you have to explain or evaluate. Don't just write all you know about a topic – make sure you apply this to the question you have been asked.

Understand the different command words compare and contrast.

Be able to relate physical processes to their outcome in the landscape as landforms.

'Scale' is important. Make sure you know the difference between global, national, regional and local, and answer accordingly if these terms are used in a question.

Be aware that the scale of landforms affects their importance in a characteristic landscape. For instance, tower karst is more significant than stalagmites in limestone scenery.

If asked for a specific number of reasons in a question, do not write about more than the specified number. Otherwise you will have less time to write about each and your answer will be less detailed.

Write precisely and in detail focusing on the central requirements of the question. Do not write vague, generalised comments that are not related to the content of the question.

Be able to explain human impacts in terms of how they affect physical processes.

Keep up to date with events that are happening in the news as these can provide material for recent examples to use in your answers.

Use and integrate case studies and examples, particularly from your home country, wherever possible, even if the question does not specifically ask for them, but make sure it is relevant to the question being asked.

Develop your skills in producing fully annotated diagrams and use them in your text. Make sure they are relevant to the question you are answering.

Be able to produce detailed, annotated maps and diagrams to illustrate your answer. Practise these when revising.

Knowledge of and ability to draw diagrams can help give detail to your answers, e.g. the *Gersmehl* diagrams are very useful for explanation of nutrient cycling in ecosystems and for explaining the impact of human activities.

Expect unusual and unfamiliar data sets and resources.

Paper 3 and Paper 4 advice

If a question is about a specific place, do not assume you need to have studied that place. You just need to use your skills and geographical understanding.

Pay particular attention to data or a resource given in a question. Read it and familiarise yourself with it, think analytically about it and then use it to support your answer.

Effects can be long term or short term; physical, economic, social and political; positive and negative.

Know key terms that are used in questions, e.g. relationships, factors, character, etc.

Sustainable management is referred to in each topic within Physical Geography, so make sure you understand what 'sustainable' means, and how it can be put into practice.

Understand the difference between plan and profile, especially in relation to coasts and be able to explain different cliff profiles.

Use as much geographical terminology in your answer as you can. Try to be as precise as possible if a question asks you to explain a key term.

In Paper 3 you need to understand and explain how physical processes work. Be as precise as possible. Understand the relationship between the physical and human environment. You need to know about the physical geography as well as the human impact on the physical environments of your particular areas of study.

In Paper 4 you need to understand how physical, economic, social and political factors influence human activities. They can operate as positive and/or negative factors. Be able to discuss these in relation to each option you have studied.

In the table below you will find the things you may be tested on in the examination. They are arranged in the order they occur in the syllabus. If there any words or terms you do not understand, ask your teacher.

Revision checklists

In the next part of this guide we have provided some revision checklists. These include information from the syllabus that you should revise. The table headings include:

Topic	Sub-topic	You should be able to	Checklist	Comments
The core topics and advanced physical and human option topics	Subdivisions of the papers – use throughout the course to check what you have covered	You can check in detail what you know/are able to do	You can tick off what you have done or what you have learned well (use a pencil for later re-use)	You can: <ul style="list-style-type: none"> • Add further information of your own, such as names of case studies needed. • add learning aids, such as “winds blow from high to low pressure” • pinpoint areas of difficulty you need to check further with your teacher or textbooks

Note: the table below cannot contain absolutely everything you need to know, but it does use examples wherever it can.

Revision checklists

Paper 1 Core Physical Geography

Topic	Sub-topic	You should be able to	Checklist	Comments
1. Hydrology and fluvial geomorphology	1.1 The drainage basin system	<ul style="list-style-type: none"> • understand the hydrological cycle as it is applied to drainage basins • describe and explain the processes at work in a drainage basin • understand the drainage basin as a system with inputs, outputs, stores and flows which include: <ul style="list-style-type: none"> ○ precipitation ○ evaporation ○ evapotranspiration ○ river discharge ○ interception ○ soil water ○ surface water ○ channel storage ○ throughfall ○ stemflow ○ overland flow ○ channel flow ○ infiltration ○ percolation ○ throughflow ○ baseflow ○ groundwater ○ recharge ○ springs ○ water tables • know what inputs and outputs are and how they affect and are affected by stores and the flows • understand the way water moves through the system (from store to store), both above and below ground – from initial precipitation to interception to overland flow to infiltration to movement through the soil and rock to the channel • understand how water is held in stores both above and below the land surface (know all the terms and their meaning, such as 		

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		<p>ground water, water table)</p> <ul style="list-style-type: none"> • understand how a change in one part of the system will cause changes in other parts • apply the above to basins in a variety of different climatic environments, e.g. very wet (tropical rainforest), seasonal rainfall, etc. 		
1. Hydrology and fluvial geomorphology	1.2 Discharge relationships within drainage basins	<ul style="list-style-type: none"> • understand storm (flood) hydrographs and basic terms, e.g. <ul style="list-style-type: none"> ○ discharge ○ rising limb ○ falling limb ○ lag time ○ peak ○ stormflow ○ baseflow ○ storm event • be able to draw typical storm (flood) hydrographs • describe and understand the difference between a storm (flood) hydrograph and an annual hydrograph (river regime graph) • describe and understand the factors that create different hydrographs, e.g. <ul style="list-style-type: none"> ○ climate and weather variations (precipitation type and intensity, temperature, evaporation, transpiration, evapotranspiration, antecedent moisture) ○ drainage basin characteristics (size, shape, drainage density, slope) ○ geology, soils and vegetation (porosity and permeability of soils, rock type, vegetation type, land-use). • understand how the factors above affect where water is stored and how it moves (flows) 		

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1. Hydrology and fluvial geomorphology	1.3 River channel processes and landforms	<ul style="list-style-type: none"> • describe and explain the main types of river processes of <ul style="list-style-type: none"> ○ erosion, (abrasion/corrasion, solution, cavitation, hydraulic action) ○ load transport (traction, saltation, suspension and solution) ○ deposition and sedimentation • describe and understand where and when erosion, transportation and deposition operate (knowledge of the hjulstrom curve) • understand characteristics of river flow like velocity and discharge • describe the patterns of river flow (laminar, turbulent and helicoidal) and thalweg • reasons for differences in flow patterns • draw, describe and understand the types of channel patterns <ul style="list-style-type: none"> ○ in plan i.e. straight, braided, meandering ○ in cross-section • describe and explain a range of features: <ul style="list-style-type: none"> ○ inside the channel, including meander (river cliffs, point bars, oxbow lakes) riffle and pool sequences ○ landforms along a river including waterfalls, gorges, bluffs, levée, floodplain, deltas 		

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1. Hydrology and fluvial geomorphology	1.4 The human impact	<ul style="list-style-type: none"> • describe and explain how catchment stores and flows, and channel flows can be modified in a drainage basin caused by <ul style="list-style-type: none"> ○ land-use change (deforestation, afforestation, urbanisation) ○ people taking water from the river (abstraction) ○ water storage (for example by dams) • understand the following about floods and flooding: <ul style="list-style-type: none"> ○ causes ○ impacts ○ predicting flood risk and recurrence intervals • methods of preventing and ameliorating floods through: <ul style="list-style-type: none"> ○ forecasts and warnings ○ hard engineering (dams, straightening, levées, and diversion spillways) ○ soft engineering (floodplain and drainage basin management, wetland and riverbank conservation and river restoration). <p>You need to know about a recent river flood event and have details about</p> <ul style="list-style-type: none"> • the causes of the flood (human and physical causes) • the impact on people • the impact on the environment • evaluating the attempts to reduce the impact of the flood. 		
2. Atmosphere and weather	2.1 Diurnal energy budgets	<ul style="list-style-type: none"> • describe the factors affecting the diurnal energy budget <ul style="list-style-type: none"> ○ incoming (shortwave) solar radiation ○ reflected solar radiation ○ energy absorbed into the surface and subsurface ○ albedo ○ sensible heat transfer ○ longwave radiation • latent heat transfer – evaporation, dew and absorbed energy returned to Earth 		

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2. Atmosphere and weather	2.2 The global energy budget	<ul style="list-style-type: none"> understand which places on Earth gain more heat than they lose, described by the latitudinal pattern of radiation. Which latitudes have excesses and which latitudes have deficits understand how such imbalances are overcome by heat being transferred around the Earth through atmospheric transfers of wind belts and ocean currents. describe and understand world patterns of: <ul style="list-style-type: none"> temperature pressure winds know the variations in these patterns and how they change seasonally understand the influence on these patterns of <ul style="list-style-type: none"> latitude land/sea distribution ocean currents 		
2. Atmosphere and weather	2.3 Weather processes and phenomena	<ul style="list-style-type: none"> know how moisture occurs in the atmosphere (gas, liquid, solid) describe the processes that alter these states i.e. evaporation, condensation, freezing, melting, deposition and sublimation describe and understand what causes precipitation (convection, frontal and orographic uplift of air) and then cool (including radiation cooling) understand how the above relates to precipitation (including ideas of relative humidity, saturation, dew point, condensation level, condensation nuclei) describe the differences in the types of precipitation – clouds, rain, hail, snow, dew and fog 		
2. Atmosphere and weather	2.4 The human impact	<ul style="list-style-type: none"> know the difference between the enhanced greenhouse effect and global warming – evidence, possible causes and atmospheric impacts 		
	Case study	You need to describe the effects of human activity on the climate of an urban area – temperature (heat island), humidity, precipitation, winds		

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3. Rocks and weathering	3.1 Plate tectonics	<ul style="list-style-type: none"> • recognise the global pattern of plate boundaries (world map knowledge is useful) • understand the different types of plate boundary, why they occur and the processes that operate there: <ul style="list-style-type: none"> ○ – divergent (constructive) ○ – conservative ○ – convergent (destructive) • understand processes such as subduction and sea floor spreading • describe and explain the landforms formed at boundaries, such as: <ul style="list-style-type: none"> ○ – fold mountains ○ – ocean ridges/rift valleys ○ – ocean trenches ○ – volcanic island arcs 		
3. Rocks and weathering	3.2 Weathering	<ul style="list-style-type: none"> • describe and understand the types of: <ul style="list-style-type: none"> ○ physical (mechanical) weathering (freeze-thaw, heating/cooling, salt crystal growth, pressure release/dilatation and vegetation root action) ○ chemical weathering (hydrolysis, hydration, carbonation) • understand why different types of weathering occur in different climatic zones because of the different temperature and amount of precipitation (Peltier diagram). • understand the factors that influence type and rate of weathering: <ul style="list-style-type: none"> ○ climate ○ rock type ○ rock structure ○ vegetation ○ relief (gradient of slope, shelter or exposure/direction slope is facing) 		

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3. Rocks and weathering	3.3 Slope processes	<ul style="list-style-type: none"> • know and understand the processes which effect slopes, and how they may develop • know and understand slope processes of mass movement: <ul style="list-style-type: none"> ○ heave ○ flow ○ slide ○ fall • know how water and sediment may move on hillslopes through rainsplash and surface run off (sheetwash and rills) • demonstrate good examples and diagrams 		
3. Rocks and weathering	3.4 The human impact	<ul style="list-style-type: none"> • describe and understand how human activities impact the stability of slopes: <ul style="list-style-type: none"> ○ increasing stability ○ decreasing stability • describe how humans can modify slopes to reduce mass movements including: <ul style="list-style-type: none"> ○ pinning ○ netting ○ grading ○ afforestation 		
	Case Study	You need to have details about the impacts of human activity on slopes. The details must include the effect on the stability of the slope and an evaluation of the attempt to reduce mass movement.		

Paper 2 Core Human Geography

Topic	Sub-topic	You should be able to	Checklist	Comments
4. Population	4.1 Natural increase as a component of population change	<ul style="list-style-type: none"> • describe and understand how population increases naturally (without migration) in relation to: <ul style="list-style-type: none"> ○ birth rate ○ death rate ○ fertility rate ○ infant mortality rate • describe and understand the factors (social, economic, environmental and political) affecting levels of births and deaths, fertility and mortality • interpret age/sex structure diagrams • understand how a population group is made up i.e. its structure, and know some of the component parts: <ul style="list-style-type: none"> ○ age ○ gender ○ dependency and dependency ratio ○ dependency ratio 		
4. Population	4.2 Demographic transition	<ul style="list-style-type: none"> • know and understand how and why birth rates and death rates change over time • draw, interpret and explain the demographic transition model through stages 1–5 • be critical in describing and understanding the model's uses, limitations and extensions • know and understand issues of youthful and ageing populations • describe and understand links between population and development as shown through changes in infant mortality rate and life expectancy over time. 		

Topic	Sub-topic	You should be able to	Checklist	Comments
4. Population	4.3 Population-resource relationships	<ul style="list-style-type: none"> • understand what is meant by food security • know and understand the causes and consequences of food shortages • know and understand how resource development, e.g. food production, relates to technology and innovation • know and understand how constraints, e.g. war, climatic hazards, link to population and resources • understand the concept 'carrying capacity' • explain and look critically at the concepts of: <ul style="list-style-type: none"> ○ overpopulation ○ optimum population ○ underpopulation 		
4. Population	4.4 The management of natural increase Case Study	<ul style="list-style-type: none"> • know and understand in detail a case study of one country's population policy regarding natural increase (population increase or decline). In this you should: • know and understand how the country attempts to control population (the management policies) • know how and why this country faces difficulties in managing its natural increase • understand how the policies attempt to solve these problems • critically judge the success level of these policies 		
5. Migration	5.1 Migration as a component of population change	<ul style="list-style-type: none"> • describe and understand the types of migration (excluding all movements of less than one year's duration) • understand the reasons for migration <ul style="list-style-type: none"> ○ economic, social, political, cultural, racial, ○ push factors, pull factors • describe and understand the ways by which people migrate, i.e. <ul style="list-style-type: none"> ○ the processes (how migration is achieved – including chain migration) ○ the patterns of migration (spatial movements of migrants – and how distance and age affects these patterns) • understand the effects of constraints, obstacles and barriers, e.g. distance, cost, national borders, language 		

Topic	Sub-topic	You should be able to	Checklist	Comments
5. Migration	5.2 Internal migration (within a country)	<ul style="list-style-type: none"> • describe and understand rural-urban and urban-rural movements <ul style="list-style-type: none"> ○ causes ○ effects on areas people leave (source areas) ○ effects on areas people go to (receiving/destination areas) ○ include the effects on population structures • describe and understand how migration can occur in steps from villages to small towns, from one town to another and on to cities (stepped migration) and within urban to urban movements • describe and understand intra-urban movements (within urban areas) – their causes and impacts 		
5. Migration	5.3 International migration	<ul style="list-style-type: none"> • describe and understand voluntary and forced (involuntary) movements <ul style="list-style-type: none"> ○ causes of international migration, e.g. economic ○ patterns of international migration, e.g. refugee flows ○ impacts on areas people leave (source) ○ impacts on areas people go to (receiving/destination areas) 		
5. Migration	5.4 The management of international migration Case study	<ul style="list-style-type: none"> • describe and understand in detail one example of an international flow of people <ul style="list-style-type: none"> ○ causes ○ character ○ scale ○ pattern ○ effects on source ○ effects on receiving/destination area 		

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6. Settlement dynamics	6.1 Changes in rural settlements Case study	<ul style="list-style-type: none"> • understand why there are changes taking place in rural settlements in LICs HICs and MICs • the contemporary (up to date) issues the changes raise (include depopulation service provision) • the impacts of internal migration (rural-urban and urban-rural migration) • the consequences of urban growth • describe the difference in rural areas between in HICs LICs and MICs <p>You need to have detail about a rural settlement (village or hamlet) or a rural area which includes:</p> <ul style="list-style-type: none"> • show how there is development and growth (or decline) • the issues of its development and growth (or decline) • evaluating the response to these issues (depending on which you choose, the changes to consider will be slightly different or additional, such as inroads by industry, recreation, transport, etc.) 		
6. Settlement dynamics	6.2 Urban trends and issues of urbanisation	<p>In relation to HICs MICs and LICs</p> <ul style="list-style-type: none"> • define: <ul style="list-style-type: none"> ○ urbanisation ○ urban growth ○ suburbanisation ○ counterurbanisation ○ re-urbanisation ○ urban renewal • understand the process of urbanisation • causes of urbanisation • consequences of urbanisation • conflicting demands for land (competition for land) • understand urban renewal • understand the concept of a world city • understand how and why world cities grow • understand the development of a hierarchy of world cities (what it is based on, how cities are ranked, etc.) 		

Topic	Sub-topic	You should be able to	Checklist	Comments
6. Settlement dynamics	6.3 The changing structure of urban settlements	<ul style="list-style-type: none"> • have a basic knowledge of the major land-use models (e.g. Burgess, Hoyt, Mann) • understand the social, economic, environmental and political factors (including planning) which affect the location of activities. • Describe and understand how urban locations change over time for retailing, services, and manufacturing • describe and understand the character of the Central Business District (CBD) and the changes taking place there • understand the competition for space (spatial competition) in urban areas • the concept of bid rent • functional zonation in urban areas • describe and understand residential segregation <ul style="list-style-type: none"> ○ causes (income and race/ethnicity) ○ processes (operation of the housing market, influence of family and friends, culture and planning) 		
6. Settlement dynamics	6.4 The management of urban settlements Case study	<ul style="list-style-type: none"> • you need to have detail on urban settlements which show the challenges and solutions for each of the following: <ol style="list-style-type: none"> (1) A shanty town (squatter settlement) in a HIC or LIC <ul style="list-style-type: none"> ○ challenges of a shanty town ○ evaluating attempted solutions (2) providing infrastructure (either power or transport) for any city <ul style="list-style-type: none"> ○ challenges of providing infrastructure (either power or transport) ○ evaluating attempted solutions 		

Paper 3 Advanced Physical Geography Options

Topic	Sub-topic	You should be able to	Checklist	Comments
7. Tropical environments	7.1 Tropical climates	<ul style="list-style-type: none"> • describe the global distribution of humid tropical environments • describe the global distribution of seasonally tropical environments • describe the climatic characteristics of humid tropical environments • describe the climate characteristics of seasonally tropical environments • explain the roles of <ul style="list-style-type: none"> ○ the intertropical convergence zone (ITCZ) (describe and explain the ITCZ and the characteristics of weather associated with it and its seasonal movements) ○ subtropical anticyclones ○ monsoons • describe and explain the resulting main climate types i.e. equatorial, seasonally humid (savanna), monsoon <ul style="list-style-type: none"> ○ varying patterns, in time and location, of rainfall ○ varying patterns, in time and area, of temperature • use examples and case studies 		
7. Tropical environments	7.2 Landforms of tropical environments	<ul style="list-style-type: none"> • describe and explain how landforms develop in granite – tors, inselbergs, bornhardts, etchplains, pediplains are examples <ul style="list-style-type: none"> ○ think about weathering processes (include deep weathering) ○ erosion (include regolith removal) ○ rock characteristics (such as jointing) ○ time scale of process operation • describe and explain the development of landforms in limestone <ul style="list-style-type: none"> ○ tropical karst (cone karst cockpit karst and tower karst) ○ think about weathering processes (include deep weathering) ○ erosion (include regolith removal) ○ rock characteristics (such as jointing) ○ time scale of process operation 		

Topic	Sub-topic	You should be able to	Checklist	Comments
7. Tropical environments	7.3 Humid tropical (rainforest) ecosystems and seasonally humid tropical (savanna) ecosystems	<ul style="list-style-type: none"> • define and understand these terms: <ul style="list-style-type: none"> ○ plant community ○ climax vegetation ○ subclimax ○ plagioclimax vegetation ○ plant succession ○ sere ○ nutrient cycling ○ energy flows ○ trophic level ○ soil catena ○ soil fertility recap on weathering processes in equatorial and savanna climatic regions • for tropical rainforest and savanna <ul style="list-style-type: none"> ○ know (with diagrams) the vegetation structure ○ understand how the vegetation has developed with time (particularly in relation to climate, soil and human influences, but also other factors such as relief and drainage) ○ know where, how and why the structure of each vegetation type varies ○ understand how nutrients move and are stored ○ understand energy flows and trophic levels ○ use Gersmehl diagrams • understand soil-forming processes in the Tropics, e.g. laterisation • relate processes to soil types and profiles (with diagrams): <ul style="list-style-type: none"> ○ latosols/oxisols ○ tropical red earth ○ tropical brown earth 		
7. Tropical environments	7.4 Sustainable management of tropical environments Case study	<ul style="list-style-type: none"> • understand what is meant by sustainable management • make one case study on the sustainable management of either the tropical rainforest ecosystem or the savanna ecosystem in terms of: <ul style="list-style-type: none"> ○ detailing the problems faced/threats to the ecosystem and ○ judging how these problems are being tackled and how effective the attempted solutions are (evaluate the attempted solutions) 		

Topic	Sub-topic	You should be able to	Checklist	Comments
8. Coastal environments	8.1 Coastal processes	<ul style="list-style-type: none"> • describe and explain how waves are generated (created in the open ocean) • understand the basic terminology of waves, e.g. wave length, period, frequency, energy , refraction, high energy/low energy etc. • be aware of factors that cause waves to differ in size/strength, e.g. fetch • describe and understand what happens to waves when they approach the shore: <ul style="list-style-type: none"> ○ breaking waves ○ swash and backwash ○ refraction • explain marine erosion: <ul style="list-style-type: none"> ○ hydraulic action ○ cavitation ○ corrasion/abrasion ○ solution ○ attrition • explain the action of sub-aerial processes (weathering and mass movement) • describe the sources of beach sediment: <ul style="list-style-type: none"> ○ cliffs ○ offshore seabed ○ rivers ○ drift along coast ○ human action • describe the characteristics of beach sediments: <ul style="list-style-type: none"> ○ types, e.g. cobbles, coarse sand fine sand, mud ○ particle size ○ particle roundness ○ particle distribution on beach • understand the concept and operation of a sediment cell • explain how sediments are transported: <ul style="list-style-type: none"> ○ along the beach (longshore drift) ○ up and down the beach ○ in relation to sediment size and wave energy • explain where and why sediments are deposited, e.g. on beaches, in estuaries 		

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8. Coastal environments	8.2 Characteristics and formation of coastal landforms	<ul style="list-style-type: none"> • describe and explain the development of erosional landforms: <ul style="list-style-type: none"> ○ cliffs – retreat of cliff face over time and the lengthening of the wave-cut platform ○ caves ○ arches ○ stacks • describe and explain the development of depositional landforms <ul style="list-style-type: none"> ○ beaches – cross section (in profile) and plan ○ swash aligned and drift aligned beaches ○ simple and compound spits ○ tombolos ○ offshore bars ○ barrier beaches ○ coastal dunes ○ tidal sedimentation in estuaries • coastal saltmarshes • coastal mangroves • be aware of landforms caused by changes in sea level, e.g. raised beaches, rias, relic cliffs, fjords • the role of sea level change in the formation of the landforms 		
8. Coastal environments	8.3 Coral reefs	<ul style="list-style-type: none"> • demonstrate knowledge of where in the world coral reefs are found (fringing, barrier and atoll) • describe the characteristics of the three main types: <ul style="list-style-type: none"> ○ fringing, e.g. Tahiti ○ barrier, e.g. Great Australian ○ atoll, e.g. Bikini Atoll • understand the conditions necessary for coral growth and how they may develop • understand the threats to coral reefs including: <ul style="list-style-type: none"> ○ global warming ○ sea level rise ○ pollution ○ physical damage • demonstrate knowledge of the problems facing reefs and possible management strategies 		

Topic	Sub-topic	You should be able to	Checklist	Comments
8. Coastal environments	8.4 Sustainable management of coasts Case study	<ul style="list-style-type: none"> • develop a detailed case study to show the problems facing sustainable management, using either one coastline or a number of coastlines: <ul style="list-style-type: none"> ○ coastal erosion (hard and soft engineering solutions), ○ managed retreat ○ tourism pressures ○ rising sea-level ○ human activity offshore ○ land-use changes on the coastline • critically evaluate the effectiveness and outcomes of attempted solutions (which include hard and soft engineering solutions) 		
9. Hazardous Environments	9.1 Hazards resulting from tectonic processes	<ul style="list-style-type: none"> • describe and explain the relationship of volcanoes/earthquakes to the world's plate boundaries • realise that different boundaries have different types of hazard or differing intensity, and why • be aware of terms associated with earthquakes such as <ul style="list-style-type: none"> ○ wave types ○ epicentre ○ focus ○ seismic scales ○ frequency • describe and understand the details of earthquakes and resultant hazards, such as shaking, landslides, soil liquefaction and tsunami • describe and explain the main types of volcanoes and volcanic eruptions • demonstrate knowledge of the products of eruption: <ul style="list-style-type: none"> ○ nuées ardentes ○ lava flows ○ mudflows (lahars) ○ pyroclastic flows ○ ash fallout ○ steam and poisonous gas emission • describe primary and secondary impact on lives and property • describe how earthquakes and volcanoes can be predicted mapped, prepared for and monitored and to what level of success • consider different perceptions of risk by people in varied world locations 		

Topic	Sub-topic	You should be able to	Checklist	Comments
9. Hazardous environments	9.2 Hazardous environments resulting from mass movement	<ul style="list-style-type: none"> • describe the nature of mass movements which lead to hazardous impact • explain the causes of hazardous mass movement, especially in relation to stability and instability of slopes • consider the effect (impact) of hazardous mass movements on lives and property • describe how hazardous mass movements can be predicted mapped, prepared for and monitored and to what level of success • consider different perceptions of risk by people in varied world locations • appreciate the effects on lives and property • use examples and case studies 		

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9. Hazardous environments	9.3 Hazards resulting from atmospheric disturbances	<ul style="list-style-type: none"> • describe the global distribution of areas most at risk from: <ul style="list-style-type: none"> ○ large scale tropical disturbances (cyclones, hurricanes and typhoons) ○ small scale atmospheric disturbances (tornadoes) • understand the processes causing the formation and development of cyclones, hurricanes, typhoons and tornadoes • understand the ways in which large scale tropical disturbances: <ul style="list-style-type: none"> ○ originate ○ develop (or not) and the role of latent heat ○ have typical cross-section characteristics ○ take particular directions ○ quickly 'die' over land • appreciate how and why large scale tropical disturbances (cyclones, hurricanes and typhoons) cause hazards, e.g.: <ul style="list-style-type: none"> ○ storm surges ○ coastal flooding ○ severe river floods from intense rainfall ○ mass movement ○ high winds ○ air pressure imbalances • explain hazards from small scale atmospheric disturbances (tornadoes) such as: <ul style="list-style-type: none"> ○ intense precipitation (rain and hail) ○ high winds ○ pressure imbalances • for both large scale tropical disturbances and small scale atmospheric disturbances, describe the impacts on lives and property. • describe how hazardous mass movements can be predicted mapped, prepared for and monitored and to what level of success • consider different perceptions of risk by people in varied world locations 		

Topic	Sub-topic	You should be able to	Checklist	Comments
9. Hazardous environments	9.4 Sustainable management in hazardous environments Case study	<ul style="list-style-type: none"> • develop a single, detailed case study of any one hazardous environment from your studies above (not an actual hazard type or single event hazard) • appreciate the problems of sustainable management in such a hazardous area • describe the methods so far attempted to solve these problems, • critically consider other possible solutions 		
10. Hot arid and semi-arid environments	10.1 Hot arid and semi-arid environments	<ul style="list-style-type: none"> • describe the global distribution of hot arid and semi-arid environments • describe the climate characteristics of hot arid and semi-arid environments • define and explain causes of aridity • understand causes of aridity (why and how these areas are found in such limited locations) – influence of: <ul style="list-style-type: none"> ○ world pressure belts, e.g. sub-tropical high pressure ○ world wind patterns ○ pattern of world ocean currents – cold currents ○ rain shadow effects ○ effective precipitation • describe and understand the key features (characteristics) of these areas <ul style="list-style-type: none"> ○ high wind energy environments ○ diurnal (daily) variations in precipitation ○ seasonal variations in precipitation ○ diurnal (daily) variations in temperature ○ seasonal variations in temperature 		
10. Hot arid and semi-arid environments	10.2 Landforms of hot arid and semi-arid environments	<ul style="list-style-type: none"> • revise the types of weathering that take place: <ul style="list-style-type: none"> ○ thermal fracture ○ exfoliation ○ salt weathering ○ chemical weathering ○ pressure release • describe and understand what the weathering does to rocks and the products it creates i.e. block and granular disintegration • describe and explain the processes of erosion, transport and 		

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		<p>deposition by wind:</p> <ul style="list-style-type: none"> • wind erosion <ul style="list-style-type: none"> ○ abrasion/corrasion ○ deflation • wind transport <ul style="list-style-type: none"> ○ critical velocities ○ traction ○ saltation ○ suspension/sandstorms • wind deposition <ul style="list-style-type: none"> ○ reduced wind velocity ○ behind obstacles ○ lee of hills/ridges • explain the occurrence and action (erosion, transport and deposition) of water <ul style="list-style-type: none"> ○ hydrological regime ○ episodic rainfall ○ sheet floods ○ flash floods • describe and explain the formation of: <ul style="list-style-type: none"> ○ sand dunes ○ wind sculptured rocks (yarding, zeugen) ○ wadis ○ alluvial fans ○ pediments ○ pediment zone (bahadas, playas, salt lakes, inselbergs) • describe and explain role of Aeolian processes (wind processes) and fluvial processes (water processes) in the present and past • Suggest evidence for past climate change in these areas (Pleistocene pluvials) • critically examine the role of present climates and past climates in the development of these landforms 		

Topic	Sub-topic	You should be able to	Checklist	Comments
4. Hot arid and semi-arid environments	4.3 Soils and vegetation	<ul style="list-style-type: none"> • realise the variety of flora and fauna in arid and semi-arid areas • define, and relate to the arid environment: <ul style="list-style-type: none"> ○ biodiversity (low) ○ nutrient cycling (limited) ○ fragility (very fragile) • describe and understand the main problems facing such ecosystems • understand how fragile it is and how easily it can be damaged naturally or by human intervention • understand why its nutrient cycle is so limited • show how flora and fauna adapt to the extreme conditions (temperatures, physical and physiological drought) • explain how the soil forming processes, e.g. upward capillary movement of water and minerals, develop characteristics in the soil • describe the process of salinisation • describe and explain the process of desertification • understand what is meant by soil degradation • know the causes (both natural and human factors) and effects of these processes in different areas 		
4. Hot arid and semi-arid environments	4.4 Sustainable management of hot arid and semi-arid environments Case study	<ul style="list-style-type: none"> • relate in detail one case study of sustainable management in either a hot arid or semi-arid area such as <ul style="list-style-type: none"> ○ growth pole settlement ○ new irrigation farming ○ mining settlement ○ tourist township • be aware of the problems faced (including desertification) and make a critical assessment of the solutions attempted or possible solutions 		

Paper 4 Advanced Human Geography Options

Topic	Sub-topic	You should be able to	Checklist	Comments
11. Production, location and change	11.1 Agricultural systems and food production	<ul style="list-style-type: none"> • describe and understand the factors influencing agricultural practices and land-use on farms: <ul style="list-style-type: none"> physical e.g. temperature/sun/rainfall variations, soil, and drainage social e.g. education of farmer, land tenure economic e.g. demand, distance from markets, technology political e.g. government subsidies, trading bloc policies • understand the role of irrigation, land tenure, nature of demand and distance from markets, agricultural technology • understand the idea of an agricultural system with <ul style="list-style-type: none"> ○ inputs, ○ throughputs ○ subsystems ○ outputs • study in detail one arable system and one pastoral system. • understand the ideas of production methods and associated productivity: <ul style="list-style-type: none"> ○ intensive ○ extensive • demonstrate knowledge of the issues involved in attempts to intensify production, e.g. <ul style="list-style-type: none"> ○ replace slash and burn in Indonesia ○ the Green Revolution ○ small-scale self-help schemes • demonstrate knowledge of the issues involved in extending cultivation e.g. <ul style="list-style-type: none"> ○ irrigating oases ○ draining swamplands ○ fish farming 		

Topic	Sub-topic	You should be able to	Checklist	Comments
11. Production, location and change	11.2 The management of agricultural change Case study	<ul style="list-style-type: none"> • develop a single case study for one country: <ul style="list-style-type: none"> ○ title: the need for agricultural change ○ scale: at the scale of both the individual farmer and the country itself ○ content: <ul style="list-style-type: none"> – why changes are needed, – why changes are difficult, – attempts made to bring about change by management – critical evaluation of the success of these attempted solutions 		

Topic	Sub-topic	You should be able to	Checklist	Comments
11. Production, location and change	11.3 Manufacturing and related service industry	<ul style="list-style-type: none"> • recall the factors affecting the location of manufacturing industry and related service industry: <ul style="list-style-type: none"> ○ suitability and cost of land ○ labour supply ○ capital available ○ location of markets ○ technology ○ economies and diseconomies of scale ○ inertia ○ transport ○ government policies ○ raw material origin ○ power source ○ infrastructure ○ linkages available • demonstrate knowledge of some of the main places where industries develop: <ul style="list-style-type: none"> ○ break of bulk sites (e.g. deep-water ports) ○ riversides for heavy plants ○ suburban trading estates on routeways and near market ○ in or next to CBD for services (and later relocation outside city) • understand where and why industries tend to develop together <ul style="list-style-type: none"> ○ industrial agglomeration ○ functional linkages ○ industrial estates ○ export processing zones (EPZ) • understand the informal sector of manufacturing and services: <ul style="list-style-type: none"> ○ causes ○ characteristics ○ location ○ impact 		

Topic	Sub-topic	You should be able to	Checklist	Comments
11. Production, location and change	11.4 The management of change in manufacturing industry Case study	<ul style="list-style-type: none"> • develop a single case study about the industrial policy for manufacturing in one country <ul style="list-style-type: none"> ○ title: industrial policy and consequent changes ○ content: <ul style="list-style-type: none"> – description and explanation of the policy – following the setting up of the policy, the changes in the location, character and organisation of its manufacturing production – description of some of the issues faced – evaluation of the attempted solutions 		

Topic	Sub-topic	You should be able to	Checklist	Comments
12. Environmental management	12.1 Sustainable energy supplies	<ul style="list-style-type: none"> • for energy, define and give examples of: <ul style="list-style-type: none"> ○ renewable resources ○ non-renewable resources • describe, at a national level, the factors affecting: <ul style="list-style-type: none"> ○ the level of demand for energy ○ the supply of energy ○ the balance between energy sources • consider ideas such as: <ul style="list-style-type: none"> ○ sustainability ○ level of country's development ○ how many resources country has (resource endowment) ○ climate ○ income (capital available for national scale projects) ○ technology available ○ pollution ○ governments energy policy, priorities and future plans for energy ○ energy security • compare trends between LICs HICs and MICs consumption of: <ul style="list-style-type: none"> ○ fossil fuels ○ nuclear power ○ renewables (including hydro-electric power (HEP), wind power, biofuels) • describe at the local scale the effects on the environment of: <ul style="list-style-type: none"> ○ energy production ○ transport of energy ○ usage of the power • describe at the global scale the effects on the environment of: <ul style="list-style-type: none"> ○ energy production ○ transport of energy ○ usage of the power 		

Topic	Sub-topic	You should be able to	Checklist	Comments
12. Environmental management	12.2 The management of energy supply Case studies	<ul style="list-style-type: none"> • develop a case study of one country's overall electrical energy strategy (plans for producing and distributing electricity) <ul style="list-style-type: none"> ○ issues of changes in demand for electricity ○ issues in changes in supply of electricity ○ actual production of electricity ○ location ○ evaluation of the success of the strategy • develop a case study of one named, located scheme (e.g. a power station). Consider issues of: <ul style="list-style-type: none"> ○ changes in demand ○ changes in supply ○ actual production of electricity ○ location ○ evaluation of the success of the scheme 		

Topic	Sub-topic	You should be able to	Checklist	Comments
12. Environmental management	12.3 Environmental degradation	<ul style="list-style-type: none"> • describe and understand the nature, causes and solutions of the major forms of pollution of: <ul style="list-style-type: none"> ○ land ○ air ○ water – inland, ocean • understand how and why the demand and supply of water varies <ul style="list-style-type: none"> ○ in different places ○ with changes in time • understand the effects on the environment of supplying water • understand issues such as water quality • understand how and why rural environments can be damaged (degraded) e.g. <ul style="list-style-type: none"> ○ overpopulation ○ poor agricultural practices, e.g. overgrazing ○ deforestation ○ quarrying ○ military training grounds ○ golf courses in rainforest, etc. • understand how and why urban environments can be damaged (degraded), e.g. <ul style="list-style-type: none"> ○ urbanisation ○ too rapid urban growth ○ industrial development ○ inadequate waste management ○ residential segregation problems ○ no-go crime zones, etc. • understand the constraints on improving the quality of these degraded environments • identify environments at risk at the local or regional scale • describe and explain why they need protecting and the ways of protecting them • look at the protection measures for these environments • assess the effectiveness of the protection 		

Topic	Sub-topic	You should be able to	Checklist	Comments
12. Environmental management	12.4 The management of a degraded environment Case study	<ul style="list-style-type: none"> • choose one degraded environment and show: <ul style="list-style-type: none"> ○ the causes of its degradation ○ the problems faced by the area ○ attempts to improve the area ○ issues (problems) of these improvement attempts • judgement on the success of these attempts to solve the problems 		
13. Global interdependence	13.1 Trade flows and trading patterns	<ul style="list-style-type: none"> • demonstrate knowledge of <ul style="list-style-type: none"> ○ visible and invisible imports ○ visible and invisible exports • appreciate the patterns of trade flows around the world • appreciate the inequalities in trade flows around the world • understand the factors affecting global trade and so causing these flows, e.g. <ul style="list-style-type: none"> ○ resource endowment ○ locational advantage ○ historical factors such as colonial links ○ trade agreements ○ political isolation of certain countries ○ changes in the global market • demonstrate knowledge and understanding of the World Trade Organisation (WTO) • demonstrate knowledge and understanding of free trade • evaluate the impacts of trade on exporting and importing countries • demonstrate knowledge and understanding of Fair Trade • describe and explain the role of Fair Trade 		

Topic	Sub-topic	You should be able to	Checklist	Comments
13. Global interdependence	13.2 International debt and international aid	<ul style="list-style-type: none"> • at the national scale, describe and explain debt <ul style="list-style-type: none"> ○ its nature ○ its causes ○ the problems it creates • describe and explain <ul style="list-style-type: none"> ○ the international debt crisis (countries affected, causes, problems created, etc.) ○ debt relief (organisations involved, actions, issues, etc.) • describe and explain different types of international aid and donors <ul style="list-style-type: none"> ○ relief aid ○ development aid ○ tied aid ○ bilateral aid ○ multilateral aid • describe and explain the effects of international aid on receiving countries • critically evaluate these effects 		
13. Global interdependence	13.3 The development of international tourism	<ul style="list-style-type: none"> • understand the reasons for growth in world tourism • describe and explain the trends in the growth of international tourism • describe the impacts, at both local and national scale, of tourism on the destination's: <ul style="list-style-type: none"> ○ environment ○ peoples (society) ○ economy • demonstrate knowledge and understanding of <ul style="list-style-type: none"> ○ carrying capacity ○ multiplier effect • describe recent developments in world tourism, e.g. <ul style="list-style-type: none"> ○ ecotourism ○ adventure tourism ○ extreme tourism • explain and critically examine the life cycle model of tourism, and apply it to case studies 		

Topic	Sub-topic	You should be able to	Checklist	Comments
13. Global interdependence	13.4 The management of a tourist destination Case study	<ul style="list-style-type: none"> • develop one case study of a tourist area or actual resort to include: <ul style="list-style-type: none"> ○ its growth ○ reasons for its development ○ the issues of sustainability it faces ○ evaluation of how tourism impacts the destination including the impact on: <ul style="list-style-type: none"> ○ the local environment ○ the people • the economy 		
14. Economic transition	14.1 National development	<ul style="list-style-type: none"> • demonstrate knowledge of primary, secondary, tertiary and quaternary sectors of an economy and their roles in economic development • the nature of global inequalities in social and economic wellbeing • the causes (human and physical) of global inequalities in social and economic wellbeing • the distribution of global inequalities in social and economic wellbeing • explain and comment on the measures and indices of social and economic inequality, e.g. life expectancy, HDI • evaluate the measures and indices of social and economic inequality 		

Topic	Sub-topic	You should be able to	Checklist	Comments
14. Economic transition	14.2 The globalisation of economic activity Case study	<ul style="list-style-type: none"> • demonstrate a basic knowledge of world patterns of: <ul style="list-style-type: none"> ○ resource distribution ○ production ○ markets • describe and explain foreign direct investment (FDI) • describe and explain the new international division of labour (NIDL) • demonstrate knowledge about the transnational corporations (TNCs multinationals) in terms of: <ul style="list-style-type: none"> ○ their growth and reasons for this ○ distribution around the world (their spatial structure) • develop a case study of one TNC – how it is organised globally and how it operates around the world • describe and explain the emergence and growth of newly industrialised countries (NICs) • appreciate the changes in the location of economic activity (eg outsourcing of manufacturing and offshoring of services) • The nature, causes and impacts of the change in location of economic activity (connections between the growth of industry in some LICs and NICs and the decline in MICs) 		
14. Economic transition	14.3 Regional development within countries	<ul style="list-style-type: none"> • appreciate that social and economic disparities (differences) exist between regions within a country • understand the concept of core and periphery • describe and explain the process of cumulative causation (from initial advantage(s)) and understand such terms as spread and backwash, regional divergence and convergence • NB here ‘regional’ does not mean a region of the world but means within a country 		
14. Economic transition	4.4 The management of regional development Case study	<ul style="list-style-type: none"> • develop one case study of a single country’s regional development policy for social and economic development • describe and explain difficulties faced in trying to overcome regional disparities • evaluate the attempted solutions made to overcome regional disparities 		

Section 6: Useful websites

The websites listed below are useful resources to help you study for your Cambridge International AS and A Level Geography.

www.s-cool.co.uk

This is a useful revision site which has a section on A level Geography.

www.rgs.org

This has a useful A level section (located under our work, teaching resources, Key Stage 5). Additional resources can be accessed if you are a member. This is useful for both teachers and learners. Within the additional resources are articles reflecting of geography in the news.

www.georesource.co.uk

This site has good coverage of many topics studied at this level. The information is mainly found under the 'higher' section.

www.geography.org.uk/resources

This site has many resources, some of which can be accessed without being a member. This is suitable for teaching, planning, and for learners

www.gapminder.org

Gapminder is a site with videos and also interesting information graphics. Within this site there is an area, 'gapminder world' which has a selection of indices which can be selected and so relationships between different counties can be explored. Particularly useful for human geography sections of the course.

www.indexmundi.com/

This website contains many different geographical variables, which can be searched according to countries or according to topics. A useful reference tool to add data to notes.

www.worldpopulationatlas.org/

This site, which includes 'worldmapper', helps to visualize geographical variables between countries. It is an interesting resource to help reflect on the relative size of the different variables studied at a global level.

www.geographyalltheway.com

This is a wide-ranging site which includes good coverage of many of the AS Level and A Level topics in Geography, which is useful both to teachers and learners. You need to take out a subscription to use this site.

www.geo-file.com

This is a subscription site, providing a series of articles on topical issues for learners. There is some free sample material.

www.geography.learnontheinternet.co.uk

A site relevant for teachers and learners that provides maps, photos, links and tasks. It organises resources into different categories.

www.bbc.co.uk

This well-known website provides a good search engine for suitable topics.

www.guardian.co.uk

A newspaper website with news and articles on environmental topics.

www.metoffice.com

This site provides weather data and maps, and education resources for both learners and teachers, including case studies.

www.globaleye.org.uk/

A website that helps with the understanding of development. Contains useful articles.

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