



Name: Class:

How to use this booklet

This booklet has been designed to cover every aspect of the <u>AQA 8035 specification</u> in some way. It is ordered in the same way as the specification. You may study the topics in a different order, which is okay.

If you complete all activities (and check with your teacher when you do not understand the activities), you will be well prepared for the exams.

The booklet has a combined approach: it includes some content information alongside lots of tasks to help you revise. All of the tasks will help you to revise the content and skills of the course. Some of the questions are in the style of the exam (and these are identified clearly as EXAM-STYLE QUESTIONS); other questions help you to practice the skills needed but do not exactly mirror the exam (e.g. the MINI ISSUE EVALUATION TASKS); others are purely designed to help you remember and revise content (e.g. brainstorms, tables and general questions).

You should remember that this is not a textbook, so it does not provide all of the content information. It should be used as an accompaniment to your lesson notes, teacher guidance revision guides, and text books.

At the start of the booklet you'll find some helpful resources. The CASE STUDIES AND EXAMPLES information will help you to take an organised approach to these important parts of Paper 1 and Paper 2. The COMMAND WORDS section tells you what each command term is asking you to do, and gives example answers to show you how.

The booklet is designed to be flexible. You may complete tasks in lessons or for homework- your teacher should guide you.

The best approach is to 'chip away' at the tasks over time rather than leaving it to a mad rush in April or May. That way you'll avoid overwhelming yourself too much.

Best of luck. Although you don't need luck, because deep down you know that if you use the booklet your confidence will go up and your grade will follow!





Course information

Your GCSE Geography course (AQA 8035) culminates in three exams. The basic information that you need to know is in dot points below. More detail is shown at the bottom.

Physical stuff like this.

Paper 1: Living with the physical environment

- The physical geography one!
- Worth 35%
- 1hr 30mins

Paper 1: Challenges in the human environment

- The human/economic one!
- Worth 35%
- 1hr 30mins

Paper 3: Geographical applications

- The skills one!
- Worth 30%
- 1hr 15mins

- Paper 1: Living with the Paper 2: Challenges in the Paper 3: Geographical physical environment human environment applications What's assessed What's assessed What's assessed 3.1.1 The challenge of 3.2.1 Urban issues and 3.3.1 Issue evaluation, 3.3.2 challenges, 3.2.2 The Fieldwork, 3.4 Geographical natural hazards, 3.1.2 The living world, 3.1.3 Physical changing economic world, skills landscapes in the UK, 3.4 3.2.3 The challenge of Geographical skills

Skills stuff like this

How it's assessed

- Written exam: 1 hour . 15 minutes
- 76 marks (including 6 marks for SPaG)
- 30% of GCSE
- Pre-release resources booklet made available 12 weeks before Paper 3 exam

Questions

- Section A: answer all questions (37 marks)
- Section B: answer all questions (39 marks)
- Question types: multiplechoice, short answer, levels of response, extended prose

Questions

(SPaG))

35 % of GCSE

Section A: answer all questions (33 marks)

How it's assessed

30 minutes

Written exam: 1 hour

88 marks (including

3 marks for spelling, punctuation, grammar

and specialist terminology

- Section B: answer all questions (25 marks)
- Section C: answer any two questions from questions 3, 4 and 5 (30 marks)
- Question types: multiplechoice, short answer, levels of response, extended prose

resource management, 3.4 Geographical skills

How it's assessed

- Written exam: 1 hour 30 minutes
- 88 marks (including 3 marks for SPaG)

Section A: answer all

Section B: answer all

Section C: answer

questions 4, 5 or 6

(25 marks)

questions (33 marks)

questions (30 marks)

question 3 and one from

Question types: multiple-

choice, short answer,

levels of response,

extended prose

35 % of GCSE

Questions

3







Case studies and examples

The specification sets out 14 examples and 5 case studies that you must learn for Paper 1 and Paper 2.

Examples are small scale. They will probably be taught within one lesson or less, and may take up about a page in an exercise book. Sometimes you must learn a **named example** which is usually regarding an event that happens regularly in a place so names are important to avoid confusion (e.g. Typhoon Haiyan 2013). Most of the time you will learn an **example** which is something that is more constant (e.g. a regeneration project in the UK).

Case studies are at a much larger scale. They include a lot of content and will need several lessons to cover the material concerned.

Paper 1 examples and case studies

- 1. Named examples of a tectonic hazard (in two areas of contrasting levels of wealth)
- 2. A named example of a tropical storm
- 3. An example of a recent extreme weather event in the UK
- 4. An example of a small scale UK ecosystem
- 5. A case study of a tropical rainforest
- 6. A case study of a hot desert OR a cold environment
- 7. An example of a section of coastline in the UK
- 8. An example of a coastal management scheme in the UK
- 9. An example of a river valley in the UK
- 10. An example of a flood management scheme in the UK
- 11. An example of an upland area in the UK affected by glaciation
- 12. An example of a glaciated upland area in the UK used for tourism

Paper 2 examples and case studies

- 13. A case study of a major city in an LIC or NEE
- 14. An example of urban planning (LIC or NEE)
- 15. A case study of a major city in the UK
- 16. An example of an urban regeneration project (UK)
- 17. An example of tourism reducing the development gap in an LIC or NEE
- 18. A case study of an LIC or NEE
- 19. An example of modern industrial development
- 20. An example of a large scale agricultural development
- 21. An example of a local food scheme in an LIC or NEE
- 22. An example of a large scale water transfer scheme
- 23. An example of a local water scheme in an LIC or NEE
- 24. An example of fossil fuel extraction
- 25. An example of a local renewable energy scheme in an LIC or NEE

TWO of Rivers, Coasts and Glacial landscapes. Consequently, you will only study the **four** relevant examples listed as numbers 7-12 here.

For UK landscapes, you will study

You will study EITHER Food, Water or Energy so you will only study the **two** relevant examples listed as numbers 20-25 here.

Your teacher will choose which specific cases you study. For example, for *an example of tourism reducing the development gap in an LIC or NEE*, you might study <u>safari tourism in Kenya</u>. On the following page, you should write down which specific cases you will use.

My case studies and examples

	The specification requires	My specific case	Have I learnt it?
Paper 1	Named example <u>s</u> of a tectonic hazard (in two areas of contrasting levels of wealth)		
	A named example of a tropical storm		
	An example of a recent extreme weather event in the UK		
	An example of a small scale UK ecosystem		
	A case study of a tropical rainforest		
	A case study of a hot desert OR a cold environment		
	TWO OF An example of a section of coastline in the UK		
	An example of a river valley in the UK		
	An example of an upland area in the UK affected by glaciation		
	TWO OF An example of a coastal management scheme in the UK		
	An example of a flood management scheme in the UK		
	An example of a glaciated upland area in the UK used for tourism		
Paper 2	A case study of a major city in an LIC or NEE		
	An example of urban planning (LIC or NEE)		
	A case study of a major city in the UK		
	An example of an urban regeneration project (UK)		
	An example of tourism reducing the development gap in an LIC or NEE		
	A case study of an LIC or NEE		
	An example of modern industrial development		
	STUDY EITHER FOOD, WATER OR ENERGY An example of a large scale agricultural development + An example of a local food scheme in an LIC or NEE OR		
	An example of a large scale water transfer scheme + An example of a local water scheme in an LIC or NEE OR		
	An example of a local renewable energy scheme in an LIC or NEE		

Command words

When you read a question (in this booklet and in the exams), underline the command word/s (the ones that tell you what to do!).

Assess (or Evaluate): make a judgement about something

Tip: The higher mark questions on case studies and examples often have an assess/evaluate element, so it's smart to go back over your case studies/examples and figure out **what your opinions are**, and **why you have these opinions** (evidence). But remember- assess and evaluate questions can appear throughout all three papers.

Example question: 'The effects of and responses to tectonic hazards vary in areas of contrasting levels of wealth.' Assess the extent to which this is true, referring to examples that you have studied. (9)

Example answer:

Tectonic hazard type: earthquake

Primary impacts mainly vary because of the types of buildings in HICs and LICs. For example, an earthquake in a HIC like the L'Aquila earthquake in Italy in 2009 destroys many expensive buildings, meaning that rebuilding is more expensive in HICs. In L'Aquila damages cost \$16 billion, compared to \$450 million in Nepal in 2015. Poorly constructed buildings also cause more deaths in LICs due to building collapse. In Nepal nearly 9000 were killed compared to 309 in L'Aquila.

The secondary effects vary even more than the primary. HICs have strong economies so they can rebuild and repair quickly. In Nepal, thousands of people still live in 'temporary' refugee camps two after the event. In L'Aquila, 65,000 people were made homeless compared to 3.5 million in Nepal, but far more people in Italy had insurance to minimise on-going impacts. Also, if a country has enough money to rebuild damaged ports, roads and airports, it can continue to trade. This reduces the economic impacts of an earthquake.

Responses to an earthquake are mainly determined by a country's level of wealth. Immediate and long-term responses are costly, and many LICs such as Nepal must rely on donations and aid. This is unreliable, and while large donations may be given soon after the quake, this may 'dry up' as hazards strike elsewhere. This can mean that immediate responses are prioritised, such as food and medical supplies, while rebuilding and creating employment opportunities may not occur for a long time in poorer regions.

Read through the model answer above. Circle the main judgement/claim that is made in each paragraph, then underline the evidence that is used to justify the judgement.

Define: you need to say what the term means

Tip: These are usually worth 1 or 2 marks, so don't over-complicate it! Keep it simple, but avoid simply re-stating the term as part of the definition. For example, if you're asked to **define 'development gap'**, don't say 'it's a gap in development'! A bit more detail is needed.



Example answers:

'Development gap' refers to the differences in levels of wealth and quality of life that exist across the world. (2)

'Development gap' refers to the disparity that exists both within and between nations, for example variations in GNI per head. (2)

6

Describe: write about what it is like

Tips: Describe questions will often (not always) require you to describe something from a figure (e.g. a map, table or photograph), so study the resource properly if this is the case.

Example question: Describe **two** environmental challenges caused by urban growth in an LIC or NEE. (2)

Example answer:

Challenge 1: Insufficient sanitation infrastructure can result in people dumping human waste into rivers.

Challenge 1: Increased emissions from traffic can add to air pollution.

Discuss: give both sides of an argument

Tip: You do not need to present a point of view here (unless asked directly to do so), but you do need to outline both views (and ideally, the <u>reasons</u> for those views). For example, if a question was **'TNCs bring more advantages than disadvantages to the LICs and NEEs in which they operate.' Discuss.** (6 marks), you would need to outline the supporting view and the opposing view.

Example answer:

TNCs and host governments agree that TNCs bring more advantages than disadvantages to the LICs and NEEs in which they operate, primarily because TNCs pay taxes to the government and generate thousands of jobs. These jobs may raise incomes and quality of life, and lead to greater spending which strengthens local economies. However, environmentalists disagree because TNCs are often not forced to follow regulations that protect water, soil and air from pollution. Human rights activists may disagree as workers are often exploited by TNCs, e.g. in 'sweatshops'. Some economists disagree, arguing that the majority of profits go to the TNC rather than being spent in the LIC/NEE.

Can you see the two 'sides' that are discussed in this answer?

Explain: offer reason/s

Tip: Focus on 'why' something is the way it is! For example, if the question is **Explain why tropical storms form over warm water**, you need to offer <u>reasons why</u>!

Example answer:

Warm water leads to mass evaporation, where water vapour rises. When the vapour meets the cool air above, it condenses and forms cloud. The rising warm air creates a low-pressure system which attracts the winds that join smaller clouds together and move the storm cloud at high speed. As the cloud moves over warm water, more rising vapour condenses and joins the cloud, generating huge amounts of energy. Once the storm is moving at 74mph+ it is officially a tropical storm.

*Go through the answer above and identify the reasons that have been given!







Justify: give evidence for, or defend a decision

Tip: This command term tends to arise where you are asked to make a decision, so think about where that will happen in the exams! It is likely to appear in the case study or example questions in Papers 1 and 2. In Paper 3, you will need to justify your recommendation in the Issue Evaluation, and in the Fieldwork section you will often need to justify why you have chosen particular data collection or presentation techniques.

Example question: Justify one of your primary data collection techniques. (3)

Example answer:

Primary data collection technique: Perception analysis

Justification: Conducting perception analysis of residents and local business owners nearby to the business park enabled me to investigate the economic impacts of the business park on the local area because it helped me to gather data on locals' views on how job opportunities, wages and how the local economy had changed.

Example question: Justify the statistical techniques you used to analyse your data. (4)

Example answer: I used percentage increase and decrease to compare residents' and local business owners' views on how economic opportunities had changed as a result of the development of the business park. This was an appropriate technique because I had collected data from different numbers of residents and business owners, meaning that the raw data results were not easily comparable. Because percentages show proportion, I could reliably compare the data from the two groups of people to see whether there were differences in their views of the business park's impacts. From this I could infer where the benefits of the business spark were felt.

Reminder: 'statistical techniques' refers to techniques including <u>measures of average</u> (e.g. mean, median, mode); <u>measures of spread</u> (e.g. range or interquartile range); <u>line of best fit; percentage</u> <u>increase/decrease; calculating</u> <u>percentiles</u>, etc. You won't be able to answer a question like this until you have conducted your fieldwork and presented the data you collect.

Outline: give the main points

Tip: Focus on giving the basic/central information. If you are asked to outline **one** thing (*example A below*), be sure to do that! (writing about more than one factor/issue when you've been asked to write about only one is a waste of time as you'll only be credited for one idea). You may be asked to outline **more than one** impacts/challenges (*example B below*). In that case, ensure that you make distinct (clearly different) points.

Example question A: Outline one change in UK farming practices since the 1960's. (2)

Example answer: Farming in the UK has undergone industrialisation since the 1960's (1 mark), meaning that farm sizes, chemical use and crop yields have increased (1 mark).

Example question B: Outline two environmental impacts of deforestation. (4)

Example answer:

Impact 1: Deforestation releases the carbon dioxide captured by trees into the atmosphere (1 mark), meaning that more of the sun's radiation becomes trapped which contributes to climate change (1 mark).

Impact 2: Deforestation causes habitat destruction (1 mark), which can threaten the survival of species, leaving them endangered or even causing extinction (1 mark).







Suggest: offer an idea. You may be asked to suggest a reason or to suggest what an effect may be.

Tips: Take clues from the resources provided, if there are any. If not, don't panic- you can make an educated guess. If the question is worth 2 marks, you should offer an idea and then add some detail. For example, if the question asks you to **'Suggest and explain <u>one</u> reason why the death rate decreases as a country develops'**, you would need to say more than 'the country can afford better healthcare' (that'd only get you 1 mark).

Example answers:

As a country develops, the government can invest more money into healthcare (one reason has been suggested here). This means that more people can access medication needed to prevent sickness and death (and here is the added detail for the 2nd mark!).

As a country develops, people can afford better nutrition (1 mark). This means that fewer people die from preventable conditions such as malnutrition (1 mark).

An additional support resource is below. Geography exams almost always ask you to describe and/or explain **distribution**, but many students get confused about what they need to do so they lose unnecessary marks. This should help.

Distribution: where something exists or occurs/ how it is spread out across a place.

If you are asked to <u>describe</u> the distribution, you need to say **where** something is.

For example: Using Figure 1, describe the distribution of the UK's population. (4)

Example answer:

The UK's population is concentrated in England, especially the south-east in London and surrounding counties, where the population is generally 1000+ people per km². Dense populations also exist in S.Wales and SW.Scotland. Populations are sparse (less than 140 people per km²) in N.Scotland, central and N.Wales, central and western Northern Ireland and the north-west of England.



If you are asked to <u>explain</u> the distribution, you need to say **why** it is spread in that way.

Example question: Explain the distribution of the UK's population as shown in Figure 1 (4).

Example answer:

London is the centre for financial and other key UK industries, meaning that it provides many opportunities and jobs which encourages people to live there. Historically, the centre and north of England had many industrial areas, which established cities such as Manchester and Birmingham. Cold and mountainous places (e.g. N.Scotland and N.Wales) are more difficult to inhabit than the flatter lowland areas (e.g. SE.England), making them sparsely populated.

9

Section C: Physical landscapes in the UK

- In this section, you MUST study <u>UK physical landscapes</u>
- You will also study TWO from <u>Coastal landscapes in the UK</u>, <u>River landscapes in the UK</u>, and <u>Glacial landscapes in the UK</u>
- Which two optional topics do I study? ______ and
- Go down and put a line through the topic that you do NOT study!

UK physical landscapes

Key idea: The UK has a range of diverse landscapes

The map shows a range of **upland**, **lowland** and **coastal** areas in the UK. Study the map. You need to know a range of upland, lowland and coastal areas.

1. Where there are blank boxes, write the mountain range or river names.



2.	Using the map,	complete the	following	sentences b	y <u>filling</u>	in the	<u>gaps</u> or	deleting	incorrect t	erms.
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a.	Steep land tends to be found in upland / lowland areas.	
b.	Flat land tends to be found in upland / lowland areas.	
C.	Two lowland areas in the UK are	and
d.	 The River Ouse is found in the lowland area of	
e.	The lower valley of the River Clyde is home to the Scottish city of _	
f.	Two upland areas in the UK are	and
g.	 The mountain of Ben Nevis is found in the	Mountains in the country of
h.	 The Mount Snowdon is found in	National Park in the country of
i.	 Two areas in England with glaciated features are	and
j.	 Along the Dorset coastline , it is the alternating bands of	and
	rock that has caused a jag	gged coastline.

k. The Holderness Coast is ______ very quickly, at around 1m per year and up to 10m in some places.

Coastal landscapes in the UK

Key idea: The coast is shaped by a number of physical processes.

Study the diagrams of waves types.



3. Define 'swash'.

4. Study the photo of Beachy Head and Seven Sisters near Brighton in England. Based on what you can see in the photo, say which wave type mainly occurs there (**constructive** or **destructive**), then offer reasons for your choice.

Main wave type:		f
	and the second s	
		win Justice I
	 - A the	
	 - + had	

5. Explain how freeze-thaw weathering can cause coastal cliffs to break up.



6. The photograph to the left shows cliffs in North Yorkshire, which suffered mass movement in 1993. Explain what causes mass movement to occur.

7. In the boxes provided, draw **labelled diagrams** to show how the processes of **hydraulic power**, **abrasion** and **attrition** erode rock.

Hydraulic power	Abrasion	Attrition

8.	Label the diagram to show the process of longshore drift and how it affects a coastline. You should include a range of terms such as: <i>swash</i> , <i>backwash</i> , <i>erosion</i> , <i>transportation</i> , <i>deposition</i> .	land
	Which <u>key terms</u> should you highlight in this question?	direction of prevailing wind sea

Key idea: Distinctive coastal landforms are the result of rock type, structure and physical processes.

9. The map below shows the geology of part of the Dorset coastline. On the map, show how the coastline is likely to change in the future. Annotate the changes that you make with brief explanations.



10. Using a diagram, explain the formation of a stack.

12. Which of the following statements are **true**? Shade **two** ovals only.

a.	Depositional landforms occur where swash is strong.	0
b.	A spit is an erosional landform.	0
C.	A coastal bar forms when longshore drift deposits sediment across the entrance to a bay.	0
d.	A headland is a depositional landform.	0
e.	A wave cut platform is a depositional landform.	0

13. Next to each image below, **name the coastal feature** and say whether it is formed by **erosion** or **deposition**.





The specification says that you need to 'Use a named example of a section of	
coastline in the UK to identify its major landforms of erosion and deposition.	Named example alert!

14. Complete the template below to help you learn/revise your named example of a section of UK coastline.

A NAMED EXAMPLE OF A SEC My example:	TION OF COASTLINE IN THE UK
Identify the location of your chosen stretch of coastline on the map.	Sketch map of the geology of your chosen stretch of coastline.
Describe the erosional processes at play along this section of coastline.	An example of one erosional landform found on this section of coastline. Include a diagram or sketch of the feature and its name if it has one. Stretch: say how the feature is likely to change in the future.
Describe the depositional processes at play along this section of coastline.	An example of one depositional landform found on this section of coastline. Include a diagram or sketch of the feature and its name if it has one. Stretch: say how the feature is likely to change in the future.

Key idea: Different management strategies can be used to protect coastlines from the effects of physical processes

15. Define 'hard engineering'.

16. Using the annual sea wall maintenance cost data provided, identify the mode, median, mean and range.

Year	2011	2012	2013	2014	2015	2016	2017	Mode: the most common Modian: the middle value (when values are in order of size)
Annual costs (thousand £)	20	30	18	62	36	20	24	Mean: the average
								Range: the difference between the greatest and smallest values
Mode:	Mediar	n:			Me	an:		Range:

17. Select **one** of the following hard engineering strategies: *sea walls, rock armour, gabions* **or** *groynes*. Draw a **labelled diagram** to show how your chosen strategy protects the coastline.

Chosen strategy:

Select one of the following soft engineering strategies: beach nourishment and reprofiling, or dune regeneration.
Describe how it protects the coast, and outline one advantage and one disadvantage to the strategy.

Chosen strategy:	Command words, p.7
It protects the coast by	
Advantage:	
Disadvantage:	

19. Suggest why managed retreat may be an appropriate response to coastal erosion in some cases.



River landscapes in the UK

Key idea: The shape of river valleys changes as rivers flow downstream.

21. The figure below shows the long profile and cross profile of a typical river. Using the figure and your own knowledge, **compare** the **width**, **depth** and **gradient** of the **upper** and **lower** courses of a typical river.



22. Complete the spider diagram below by summarising each of the fluvial (river) processes.



Key idea: Distinctive fluvial landforms result from different physical processes.

23. You need to know a range of river landforms resulting from erosion and deposition (their characteristics and formation). In the tables below, complete the blank columns. Under 'characteristics', you need to identify the features of the landform (e.g. for flood plain you might write low, flat land on either side of a river in the lower course, fertile soil from alluvium and other deposited sediments, often used for farming). Under 'formation' you need to provide a step-by-step explanation of how it forms, referring to specific processes (e.g. simply saying 'due to erosion' isn't specific enough- say whether it is hydraulic action, abrasion or attrition, and how that process creates the landform).

Fluvial (river) landforms resulting from erosion				
Landform	Image	Characteristics	Formation	
		(and where it is found-	(step-by-step explanation)	
		upper/middle/lower)		
Interlocking spurs				
Waterfall				
Gorge				

	Fluvial (river) landforms resulting from erosion and deposition				
Landform	Image	Characteristics (and where it is found- upper/middle/lower)	Formation (step-by-step explanation)		
Meander					
Oxbow lake					

Fluvial (river) landforms resulting from deposition				
Landform	Image	Characteristics (and where it is found- upper/middle/lower)	Formation (step-by-step explanation)	
Levee				
Flood plain				
Estuary				

OS MAP FOCUS

24. Now you know about river features, but are you confident to identify them on an OS map? The following information will help you to do this. Answer the questions at the end.

Contour lines are the orange lines that you see on maps. They show the **height** (or elevation) of the land in metres (at **A** the land is 600m high.)

The **closer** together the lines are, the **steeper** the land ('steep relief'). If they are **far apart**, this indicates that the land is quite **flat** ('gentle relief'). Based on this, we can see that the map shows an area of steep land. This indicates that the rivers shown are in their **upper course**!

A **V** shape is formed where the contour lines cross a river (*). The V shape is pointing **uphill** to where the river came from.

And of course you know that water flows **downhill**! You should be able to tell the **direction** that the rivers are flowing in by using the contour lines (the river flows away from **B** where the land is 540m high, towards



C where the land is 370m high). Also, we know that the source (start) of a river is found inland and flows towards the coast, so we know that where the blue river line begins is the source (e.g. **S**).

To re-cap: the main evidence on the map above to show that these are rivers in the upper course is- a) the **contour lines are close together** showing that land is steep, b- the **V-shape** points to where the river came from, and c- we can see the **sources** of the rivers.

Questions based on the map above:

- i. How high is the land at point 1? _____
- ii. What is the river feature at point 2?
- iii. What is the difference in land height between points A and B?
- iv. What is the land like at point C?

The map to the right shows a river in its lower course. Evidence for this:

a) the contour lines are **far apart** (indicating fairly flat land) and **the land elevation** is low

b) the river has large meanders

- c) the river meanders across a large flat area (the flood plain), and
- d) the river is **wide** (a wide blue line)

The specification says that you need to use an '*example of a river valley in the UK*' *to* identify its major landforms of <u>erosion</u> and <u>deposition</u>.







AN EXAMPLE OF A R My example:	IVER VALLEY IN THE UK
Major landform/s caused by erosion	Major landform/s caused by deposition
An example of a landform caused by erosion in the valley is a:	An example of a landform caused by erosion in the valley is a:
It is located:	It is located:
The characteristics of the landform are:	The characteristics of the landform are:
Sketch map showing location	Sketch map showing location
Labelled diagram of the landform	Labelled diagram of the landform
Description of how the landform may change in the future and explanation why.	Description of how the landform may change in the future and explanation why.

Key idea: Different management strategies can be used to protect river landscapes from the effects of flooding

PHYSICAL factors that affect flood risk include precipitation (rainfall), geology (rock type), relief (land shape).

26. Below, explain how each factor affects flood risk, using the key vocabulary provided. An example has been done for you.

Vocabulary: permeable, impermeable, infiltration, steep-sided valley, surface runoff, discharge.

Precipitation: Prolonged rainfall causes soil to become saturated. This means that infiltration cannot occur, so surface runoff increases, and this causes rivers to fill up quickly. In the case of heavy rainfall, the water arrives too quickly for infiltration to occur, so surface runoff carries water to the river channel. As the river discharge increases, a river may spill over its banks, causing a flood.

Geology:	 	
Relief:		

The key HUMAN factor that affects flood risk is land use e.g. building on the flood plain and deforestation.

27. Below, explain how each factor affects flood risk, using the key vocabulary provided.

Vocabulary: impermeable materials, concrete, tarmac, interception, surface runoff, discharge.

Building on the flood plain:			
		·····	
Deforestation:	 		

- 28. Study the storm hydrograph to the right to remind you of the key components of a hydrograph. Below, say what each part of the hydrograph tells us about a river:
- 1. Peak discharge:
- 2. Lag time:
- 3. Rising limb:
- 4. Falling limb:
- 29. Using the river discharge data provided, identify the mode, median, mean and range.

Sample	1	2	3	4	5	6	7
River discharge (cumecs)	184	90	159	142	64	64	95

Mode: the most common Median: the middle value (when values are in order of size) Mean: the average Range: the difference between the greatest and smallest values

Range: _____

Mode: _____ Median: _____ Mean: _____

30. The hydrographs below show two instances where the rainfall data is exactly the same, yet the peak discharge and lag time differ. Suggest and explain reasons for these differences. Try to use data in your response.





31. Give two examples of hard engineering strategies that can be used to manage flood risk other than dams and reservoirs.

a. ______ b. _____

32. Explain how flood warnings can help to reduce the effects of flooding.

33. MINI ISSUE EVALUATION TASK

There are many **engineering** strategies to help **reduce the risk of flooding or its impacts**. To help you revise this topic and also to practice the ISSUE EVALUATION component of Paper 3, you need to think about the benefits and costs of a range of hard and soft engineering strategies.

Imagine that you are a flooding expert from the Environment Agency (EA) paid to advise the local council on the best strategy to use in Boscastle, a small village in Cornwall in southern England that has experienced a number of floods in recent years. Key points to consider:

- Population: 662
- Average house value: £312,000
- Key industries: tourism and fishing
- Village is located at the confluence of three rivers
- Major flood in 2004 where the homes, businesses and cars were swept away. Boscastle flooded again in 2007 although the impacts were not as serious as in 2004.

On the lines below, explain which **one** of the four engineering strategies you recommend that the UK government uses to reduce the risk and/or impacts of flooding in Boscastle. You should explain <u>why this is the best option</u>, <u>identify any problems with your</u> <u>choice</u>, and <u>say why it is a more appropriate choice than the rejected options</u>.

Options: 1- building a dam and reservoir upstream; 2- building flood relief channels; 3- afforestation; 4- investing in preparation (e.g. education and modifying buildings most at risk)

Chosen option: _____



scheme in the UK'.



34. Complete the template below to help you learn/revise the example.

AN EXAMPLE OF A FLOOD MANAGEMENT SCHEME IN THE UK My example:			
Identify the location of your chosen flood management scheme on the map. Be sure to label the place name.	Provide a sketch drawing of your chosen flood management scheme.		
Explain the reasons why management scheme was needed.	Describe the management scheme and explain how it helps to manage flood risk and its impacts.		
Outline the social, economic and environmental issues. Within this section discuss stakeholder opinions and any conflicts.)	on you might also Evaluate the effectiveness of the management scheme.		

Glacial landscapes in the UK

Key idea: Ice was a powerful force in shaping the physical landscape of the UK.

1. Using **Figure 1**, describe the maximum ice coverage during the most recent ice age.



2. Label the empty boxes below with the erosional process that is occurring at each point.



3. Explain the difference between the processes occurring at B and C.

4. Complete the paragraph below on glacial erosion and transportation using the vocabulary provided. **Vocabulary**: *streams, deposited, clay, sand, together, enormous, till, ice, carried, bulldozing, outwash, size, frozen*

Glaciers transport _	amounts of unsorted material over very large distances. This unsorted material is ca		is unsorted material is called
	_, and is made up of sand,	and rocks. The material is tran	sported in three main ways: 1)
it may be	in the moving glacier, 2)	on its surface, or 3) p	ushed in front of it
(). If the ice melts, till is	(dropped) on the valley floor. Bec	cause sand, clay and rocks are
transported by a soli	id mass (), they arer	i't sorted by weight and	like river deposits.
Rocks of all shapes	and sizes tend to be deposited	However, at the front of the	ne glacier, small meltwater
	_ can wash away fine materials like	and gravel. Because t	this material is carried by
water, it is sorted by	size and deposited in layers called		

- 5. Which **process** is occurring at the snout of this glacier?
- 6. Explain what 'rotational slip' refers to.



Key idea: Distinctive glacial landforms result from different physical processes.

- 7. Next to the corresponding letters, state the glacial landform shown.
- Α.____
- В. _____
- С. _____
- D.







8. The diagram below shows the seven glacial landforms that result from erosion. In each box, **describe the landform** (its characteristics) and **explain how it formed** (the processes). A way to do this successfully is to learn the basic information (e.g. in lesson or at home), then practice verbally describing and explaining to a friend until you can properly remember it without the help of a book. Once you can do this, you're ready to complete the boxes. Avoid simply copying the information from a textbook because this won't help you to remember.



9. Moraines are landforms made out of till, dropped by a glacier as it melts. Describe the positioning of each of the four types of moraine, and **explain why** they are positioned like this.

Lateral moraine	
Medial moraine	
Terminal moraine	
Ground moraine	
10. Using the annual meltwater data provided, identify the mode, median, mean and range.	mmon
Median: the middle	e value order of
Year 2011 2012 2013 2014 2015 2016 2017 size) Mean: the ave	erage
Annual glacial meltwater 80 109 112 98 95 160 95 Range: the different (in millions of currecs)	nce between nallest values
Maday Madian Maan	
Mode: Median: Mean: Range:	
Figure 2	
11. What is the depositional glacial landform depicted in Figure 2	?
Side View	
ice flow	
Map View (contour lines) 12 Identify two factures of the landform you identified in Q11	

Figure 3

direction of ice flow



12. Identify two features of the landform you identified in Q11.

Feature 1:

Feature 2: _____

13. What is the depositional glacial landform depicted in Figure 3?

OS MAP FOCUS

It can be tricky to read glacial features on OS maps. This is partly because many glacial features are located in areas of steep relief, meaning that the maps are crowded with contour lines. However, it's important that you practice doing so, because it's common for exams to use OS extracts. (More importantly, it could save your life if you find yourself in a glacial landscape!)

See the OS map extract below, which shows a range of glacial landforms in the Lake District:

The height of the land may be difficult to figure out as contour lines are very close together where the relief is steep, and are often very 'curvy' where there are many hills or mountains. This makes following a contour line to find the number showing land height quite tricky.

Black numbers show the specific height of mountains in metres. These should help you to visualise the shape of the land when reading an OS map.



The following diagrams and their corresponding maps should help you to know what you're looking out for on OS maps. It's important that you ask questions when you're not sure- this is a very difficult topic!



14. Label as many glacial features as you can identify onto the map using neat lines. Some of the glacial features that I can see are:



Use the maps below to answer questions 14-17.



15. What evidence can be seen on the OS map that this area was glaciated?

- 16. What type of feature of glacial erosion now contains the lake called Red Tarn? _
- 17. From looking at the map extract, label the **summit** (highest point) of Helvellyn onto the second image. Also add labels for 'Striding Edge' and 'Helvellyn Screes' onto the second image.
- 18. Scree slopes are slopes of broken up, sharp and angular pieces of rock. Name and describe the weathering process that produced this scree.

19. Now take a **diagonal line** from north-west to south-east across Grisedale valley and sketch a rough cross-section diagram in the space below. (This is not something that you are likely to have to do in the exam, so don't worry if you find this very challenging. The task is intended to help you get a good understanding of maps of glaciated areas, and of how the land would look in real life.)

20. To help you to remember glacial features and how they formed, select one feature (e.g. arete, corrie, pyramidal peak, glaciated trough, ribbon lake, drumlin) and create a labelled diagram in the space below to show how it formed. (Try to choose a different feature to the ones you write about on the following page.)

The specification says that you need to know 'an example of an

upland area in the UK affected by glaciation to identify its major landforms of <u>erosion</u> and <u>deposition</u>².



21. Complete the template below to help you learn/revise your example of an upland glaciated area in the UK.

AN EXAMPLE OF AN UPLAND AREA I My example:	N THE UK AFFECTED BY GLACIATION
Identify the location of your chosen glaciated upland area on the map.	OS map extract showing all or part of your glaciated upland area (or the closest you can find, OR your own hand-drawn map!)
An example of at least one major erosional landform found in your chosen upland area. Include a <u>diagram or sketch</u> of the feature and its <u>name</u> if it has one.	Describe the processes that formed the erosional landform/s.
An example of at least one major depositional landform found in your chosen upland area. Include a <u>diagram or sketch</u> of the feature and its <u>name</u> if it has one.	Describe the processes that formed the depositional landform/s.

Key idea: Glaciated upland areas provide opportunities for different economic activities, and management strategies can be used to reduce land use conflicts.

22. Complete the table below by summarising <u>four key economic activities</u> that occur in glaciated upland areas and their <u>resulting conflicts</u>.

Economic	Description of the economic activity (what	Conflicts caused by the economic activity (be sure to mention
activity	does it involve, what are its benefits, why is the	specific stakeholder groups)
Farming		
J		
Earoofra.		
Forestry		
Quarrying		
Tourism		

23. Outline some of the conflicts between **conservation** and **development** that occur in glaciated upland areas of the UK.

The specification says that you need to know 'an example of a glaciated upland area in the	Example alert!
UK used for tourism.'	

24. Complete the template below to help you learn/revise your example of an upland glaciated area in the UK.



EXAM-STYLE QUESTION: Explain how tourism has had environmental impacts on a named glaciated area. (6)



Paper 2- Challenges in the human environment

Section A: Urban issues and challenges

Key idea: A growing percentage of the world's population lives in urban areas.

- 1. Complete the graph to show that the urban population of LICs in 2000 was 2 billion.
- 2. Describe the trends shown by the graph.

Trend: the pattern or overall result.

Aim to use <u>descriptive language</u> (e.g. increasing/decreasing, slow, steady, rapid, exponential, equal, overtake) and <u>data</u> (numbers).



Which key terms should you

Physical landscapes in the UK (do questions 75 & 76 then two of Coastal (77-91), River (92-106) and Glacial (107-117))

- 75. Give two upland areas in the UK.
- 76. Describe where lowland areas are found in the UK.
- 77. Give two features of destructive waves and two features of constructive waves.
- 78. Explain the difference between mechanical and chemical weathering.
- 79. Describe how the process of abrasion causes coastal erosion.
- 80. What is longshore drift?
- 81. Give one example of a resistant rock type.
- 82. Give one example of a non-resistant rock type.
- 83. Explain how a coastal stack forms.
- 84. Explain how a sand dune forms.
- 85. How would you identify a spit on a map?
- 86. For your example of a section of UK coastline, give its major landforms of erosion and deposition.
- 87. What is hard engineering?
- 88. Describe one hard engineering strategy and give one cost and one benefit of the strategy.
- 89. What is soft engineering?
- 90. Describe one soft engineering strategy and give one cost and one benefit of the strategy.
- 91. For your example of a UK coastal management scheme, identify
- the management strategy/ies used and the resulting impacts. 92. Explain the difference between vertical and lateral erosion.
- 93. Describe the process of traction.
- 94. Why do rivers deposit sediment?
- 95. What is a gorge?
- 96. Explain how a gorge forms.
- 97. How would you identify a waterfall on a map?
- 98. For your example of a UK river valley, identify its major landforms of erosion and deposition.
- 99. Explain how geology affects flood risk.
- 100. Explain how land use affects flood risk.
- 101. What is a hydrograph?
- 102. Define lag time.
- 103. Why is lag time generally shorter in areas with impermeable surfaces?
- 104. Identify one hard engineering strategy and describe how it reduces flood risk.
- 105. How does flood plain zoning help to reduce flood risk?
- 106. For your example of a UK flood management scheme, say why the scheme was required and outline the resulting issues.
- 107. What was the extent of maximum ice cover across the UK during the last ice age?
- 108. Describe the process of plucking.
- 109. What is bulldozing?
- 110. Why do glaciers deposit sediment?
- 111. What is a hanging valley?
- 112. Explain how a hanging valley forms.
- 113. How would you identify an arête on a map?
- 114. For your example of a UK upland area affected by glaciation, identify its major landforms of erosion and deposition.
- 115. What types of farming commonly occur in glaciated landscapes?
- 116. Describe one conflict between conservation and development that can occur in upland glaciated areas.

For your example of a UK upland glaciated area used for tourism, identify the attractions for tourists and the impacts of tourism.