

**GCSE**



# Geography



**Paper 1**  
**Section A:**  
**The Challenge of**  
**Natural Hazards**

**Name:**  
**Class:**

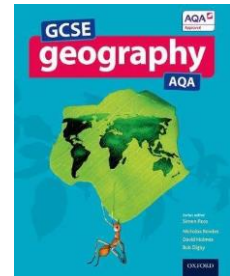
## How to use this booklet

This booklet has been designed to cover every aspect of the AQA 8035 specification 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.

### Paper 1: Living with the physical environment

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

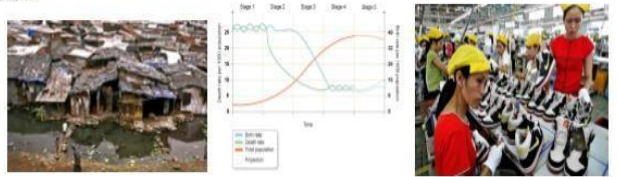
Physical stuff like this...



### Paper 1: Challenges in the human environment

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

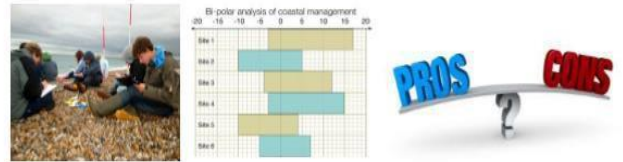
Human/economic stuff like this...



### Paper 3: Geographical applications

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

Skills stuff like this...



Paper 1: Living with the physical environment	+	Paper 2: Challenges in the human environment	+	Paper 3: Geographical applications
<p><b>What's assessed</b></p> <p>3.1.1 The challenge of natural hazards, 3.1.2 The living world, 3.1.3 Physical landscapes in the UK, 3.4 Geographical skills</p>		<p><b>What's assessed</b></p> <p>3.2.1 Urban issues and challenges, 3.2.2 The changing economic world, 3.2.3 The challenge of resource management, 3.4 Geographical skills</p>		<p><b>What's assessed</b></p> <p>3.3.1 Issue evaluation, 3.3.2 Fieldwork, 3.4 Geographical skills</p>
<p><b>How it's assessed</b></p> <ul style="list-style-type: none"> <li>• Written exam: 1 hour 30 minutes</li> <li>• 88 marks (including 3 marks for spelling, punctuation, grammar and specialist terminology (SPaG))</li> <li>• 35 % of GCSE</li> </ul>		<p><b>How it's assessed</b></p> <ul style="list-style-type: none"> <li>• Written exam: 1 hour 30 minutes</li> <li>• 88 marks (including 3 marks for SPaG)</li> <li>• 35 % of GCSE</li> </ul>		<p><b>How it's assessed</b></p> <ul style="list-style-type: none"> <li>• Written exam: 1 hour 15 minutes</li> <li>• 76 marks (including 6 marks for SPaG)</li> <li>• 30 % of GCSE</li> <li>• Pre-release resources booklet made available 12 weeks before Paper 3 exam</li> </ul>
<p><b>Questions</b></p> <ul style="list-style-type: none"> <li>• Section A: answer all questions (33 marks)</li> <li>• Section B: answer all questions (25 marks)</li> <li>• Section C: answer any two questions from questions 3, 4 and 5 (30 marks)</li> <li>• Question types: multiple-choice, short answer, levels of response, extended prose</li> </ul>		<p><b>Questions</b></p> <ul style="list-style-type: none"> <li>• Section A: answer all questions (33 marks)</li> <li>• Section B: answer all questions (30 marks)</li> <li>• Section C: answer question 3 and one from questions 4, 5 or 6 (25 marks)</li> <li>• Question types: multiple-choice, short answer, levels of response, extended prose</li> </ul>		<p><b>Questions</b></p> <ul style="list-style-type: none"> <li>• Section A: answer all questions (37 marks)</li> <li>• Section B: answer all questions (39 marks)</li> <li>• Question types: multiple-choice, short answer, levels of response, extended prose</li> </ul>

## 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

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

### 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

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 safari tourism in Kenya. 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?
<b>Paper 1</b>	Named examples 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 <b>case study</b> of a tropical rainforest		
	A <b>case study</b> of a hot desert OR a cold environment		
	<b>TWO OF...</b> 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		
	<b>TWO OF...</b> 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		
<b>Paper 2</b>	A <b>case study</b> of a major city in an LIC or NEE		
	An example of urban planning (LIC or NEE)		
	A <b>case study</b> 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 <b>case study</b> of an LIC or NEE		
	An example of modern industrial development		
	<b>STUDY EITHER FOOD, WATER OR ENERGY...</b> 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 fossil fuel extraction + 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)



**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 reasons 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 reasons why!

*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 park were felt.

**Reminder:** 'statistical techniques' refers to techniques including measures of average (e.g. mean, median, mode); measures of spread (e.g. range or interquartile range); line of best fit; percentage increase/decrease; calculating percentiles, 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)

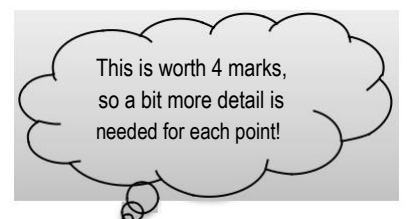
*Example answer:* Farming in the UK has undergone industrialisation since the 1960's (1 mark), meaning that farm sizes, chemical use and crop yields have increased (1 mark).

*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 one 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 2<sup>nd</sup> 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.

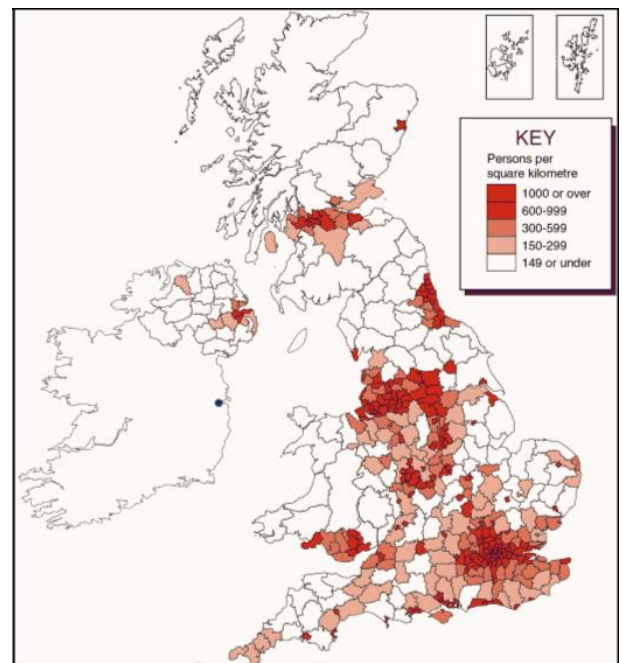
**Distribution:** where something exists or occurs/ how it is spread out across a place.

If you are asked to describe 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 km<sup>2</sup>. Dense populations also exist in S.Wales and SW.Scotland. Populations are sparse (less than 140 people per km<sup>2</sup>) in N.Scotland, central and N.Wales, central and western Northern Ireland and the north-west of England.



If you are asked to explain 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.

# Paper 1- Living with the physical environment

## Section A: The challenge of natural hazards

### Natural hazards

Key idea: Natural hazards pose major risks to people and property.

1. **Define** 'natural hazard' and give examples.

**Command words, p.6**

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2. Add the events to the table below. **Events:** *earthquake, volcanic eruption, tsunami, tropical storm, hurricane/typhoon/cyclone, climate change*

Event	Meaning
	Lava erupts from a vent in the earth's crust. This occurs at destructive and constructive plate boundaries.
	Changes to the earth's atmospheric patterns, especially rainfall and temperature. These changes vary region to region, but in many places they involve increases in temperature.
	Different names are given to tropical storms depending on where they occur.
	Shaking of the ground due to tectonic movement. This occurs at all plate boundary types.
	A series of fast moving, long and high waves resulting from tectonic movement under the ocean floor.
	A powerful storm that moves at more than 74 miles per hour. They form over water and spin in an anticlockwise direction, gathering power as they move over water & losing power when they reach land.

3. Complete the paragraph about hazard risk by filling in the gaps with the provided vocabulary. **Vocabulary:** *equipped, earthquakes, probability, density, magnitude, nature, defences, flooding, rebuild, greater, human, frequently, cope, severe.*

Hazard risk is the \_\_\_\_\_ that a natural hazard occurs. To count as a hazard, the event has to affect \_\_\_\_\_ activities. Several factors influence hazard risk. One is vulnerability. The denser the population is in an area exposed to natural hazards, the greater the risk that they will be affected by a natural hazard. For example, an area with a high population \_\_\_\_\_ along a very active plate boundary (e.g. San Francisco) is especially vulnerable to earthquakes, and a densely populated floodplain (e.g. Bangladesh) is especially vulnerable to \_\_\_\_\_ caused by extreme weather. Another factor is capacity to \_\_\_\_\_. The better a population can cope with an extreme event, the lower the impact will be. For example, HICs are often better \_\_\_\_\_ than LICs to deal with the impacts of natural hazards such as flooding or volcanic eruptions., because they are more able to build \_\_\_\_\_, evacuate people, provide swift medical assistance and \_\_\_\_\_ quickly. Another factor is that the \_\_\_\_\_ of natural hazards varies considerably. Some hazards can be **predicted** (e.g. tropical storms) giving people and governments time to prepare and evacuate, while others cannot be predicted and happen suddenly (e.g. \_\_\_\_\_) meaning that people are caught unaware. Some hazards occur more \_\_\_\_\_ than others, increasing hazard risk. Some hazards are more \_\_\_\_\_ than others, e.g. an earthquake of 9.2 on the Richter scale will have a far \_\_\_\_\_ hazard risk than one that registers in at 4.6. To summarise, some key factors affecting hazard risk are: vulnerability, population density, capacity to cope, level of preparation, hazard type, hazard frequency, and \_\_\_\_\_.

4. Would hazard risk be greatest for A or B? In the final column, give reasons for your choice. An example has been done for you.

Question	A	B	Risk would be greatest in... (A or B)	Reasons
Where will <b>economic</b> cost be greatest?	<i>Volcanic eruption in a rural area</i>	<i>Volcanic eruption in an urban area</i>	B	Urban areas have more buildings and businesses so insurance and reconstruction costs would be higher. Replacement of belongings is costly for individuals.
Where will <b>economic</b> cost be greatest?	<i>Earthquake in an urban area in a HIC</i>	<i>Earthquake in an urban area in a LIC</i>		
Where will <b>human</b> cost be greatest?	<i>A tsunami strikes a densely populated coastline</i>	<i>A tsunami strikes a sparsely populated coastline</i>		
Where will <b>human</b> cost be greatest?	<i>Rising sea levels- mountainous region</i>	<i>Rising sea levels- small Pacific islands</i>		

**Tectonic hazards**

Key idea: Earthquakes and volcanic eruptions are the result of physical processes.

5. The theory of plate tectonics is that....

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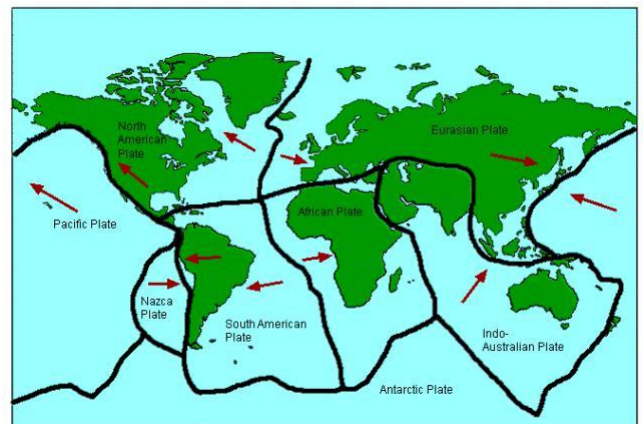


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6. Look at the map. The black lines show plate margins. In one sentence, say what a plate margin is.




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7. Why do most earthquakes and volcanoes occur near plate margins? In your answer, try to use geographical terms such as: *convection currents, tectonic plates, plate boundaries, collision, energy*, etc.

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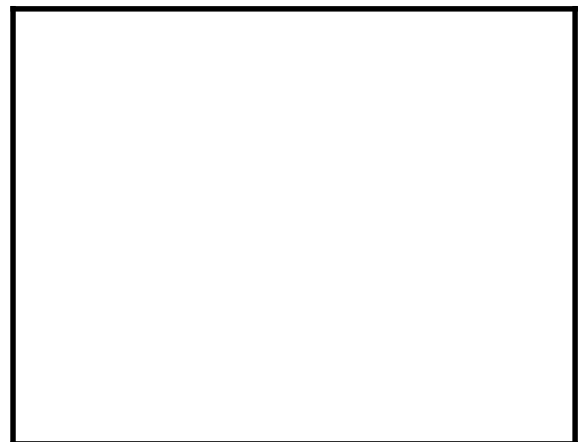


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- 8. Where do more tectonic hazards occur? Circle the correct answers.
  - a. On or near plate margins / far from plate margins
  - b. Near the Pacific Ring of Fire / far from the Pacific Ring of Fire
  - c. Near coastal areas / inland areas
  - d. The western coastline of North and South America / the eastern coastline of North and South America
  - e. Southern Africa / south and eastern Asia
  
- 9. There are three main types of plate margin (destructive, constructive and conservative). For each plate margin type:
  - a. Draw a diagram showing how the plates move (Towards each other? Apart? Alongside each other?)
  - b. Write a sentence describing what happens
  - c. Indicate whether earthquakes and/or volcanic eruptions occur as a result
  - d. Give an example (use the map above to help you) e.g. 'where the South American and Nazca plates meet'

Destructive plate margin

- a. The plates move together / apart / alongside each other
- b. At a destructive plate margin, \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_.
- c. Earthquakes occur here / volcanoes occur here / earthquakes and volcanoes occur here
- d. Example: \_\_\_\_\_



Constructive plate margin

- a. The plates move together / apart / alongside each other
- b. At a constructive plate margin, \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_.
- c. Earthquakes occur here / volcanoes occur here / earthquakes and volcanoes occur here
- d. Example: \_\_\_\_\_



Conservative plate margin

- a. The plates move together / apart / alongside each other
- b. At a conservative plate margin, \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_.
- c. Earthquakes occur here / volcanoes occur here / earthquakes and volcanoes occur here
- d. Example: \_\_\_\_\_



Key idea: The effects of, and responses to, a tectonic hazard vary between areas of contrasting levels of wealth.

10. Below some **effects** of and **responses** to tectonic hazards are listed. Code each one as either **PE** (primary effect), **SE** (secondary effect), **IR** (immediate response) or **LR** (long-term response).

buildings collapse	economic growth slows
water pipes burst	people moved permanently from the area
disease spreads	homelessness
evacuation	people die of cold and exposure
communication links destroyed	landslides
building regulations improved	new jobs in the construction industry
volunteers arrive to search for survivors	tents given out by charities
fires spread due to gas pipes bursting	schools and hospitals rebuilt
people are injured or killed	people live in refugee camps
income is lost	shops and businesses ruined
investment in the area is focussed on rebuilding	gas pipes burst
search and rescue teams deployed	rioting
evacuation services	farmland, crops and livestock destroyed
medical tents set up	water sources contaminated
money is donated to purchase medicines and other supplies	the government has to borrow money for reconstruction
homes are rebuilt at huge expense	sites of religious and cultural importance are lost
trade is made more difficult	water is contaminated

11. The effects of tectonic hazards are often worse in places that have low incomes. Select one effect from the list above, and create a flow chart in the space below to show why the effects may be more devastating in a LIC than a HIC.

The specification says that you need to 'Use named examples to show how the effects and responses to a tectonic hazard vary between **two areas of contrasting levels of wealth.**'



12. To help you do this, complete the table below. Try to **include place-specific details** (e.g. place names) and **facts and figures** (e.g. number of destroyed houses and lives lost).

	<b>HIC named example</b> Earthquake or volcano? _____ Place? _____ Year? _____	<b>LIC named example</b> Earthquake or volcano? _____ Place? _____ Year? _____
<b>Primary effects</b>		
<b>Secondary effects</b>		
<b>Immediate responses</b>		
<b>Long-term responses</b>		

**Tip:** you need to be able to **assess** which effects were most/least severe and which responses were most/least effective. Develop a **coding system** in the space below and label the information in your table above.

**Command words, p.6**



Key idea: Management can reduce the effects of a tectonic hazard.

13. Using the vocabulary provided, **explain** why people continue to live in areas at risk from a tectonic hazard. **Vocabulary:** *advantages, opportunities, fertile, tourism, apathy, sites of religious or cultural importance, denial, financial hardship*

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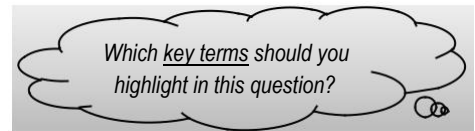
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14. Think about the examples of monitoring, prediction, protection and planning below, then say how each can reduce the risks from a tectonic hazard.



**Monitoring examples:** seismometers, thermal imaging, volcano observatory, laser beams to detect plate movement, gas samples to measure sulphur levels, monitor radon gas levels, groundwater level changes.

*Monitoring helps to reduce tectonic hazard risks by...* \_\_\_\_\_

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**Prediction examples:** tracking hazard frequency, tremor detection, volcano observation

*Prediction helps to reduce tectonic hazard risks by...* \_\_\_\_\_

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**Protection examples:** earthquake-proofing buildings, strong and flexible materials for bridges and roads, lahar channels *Protection*

*helps to reduce tectonic hazard risks by...* \_\_\_\_\_

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**Planning examples:** training people e.g. earthquake drills, emergency supplies stored by local services and emergency kits in the home, good communication systems, being ready to evacuate, constructing new buildings away from areas of risk

*Planning helps to reduce tectonic hazard risks by...* \_\_\_\_\_

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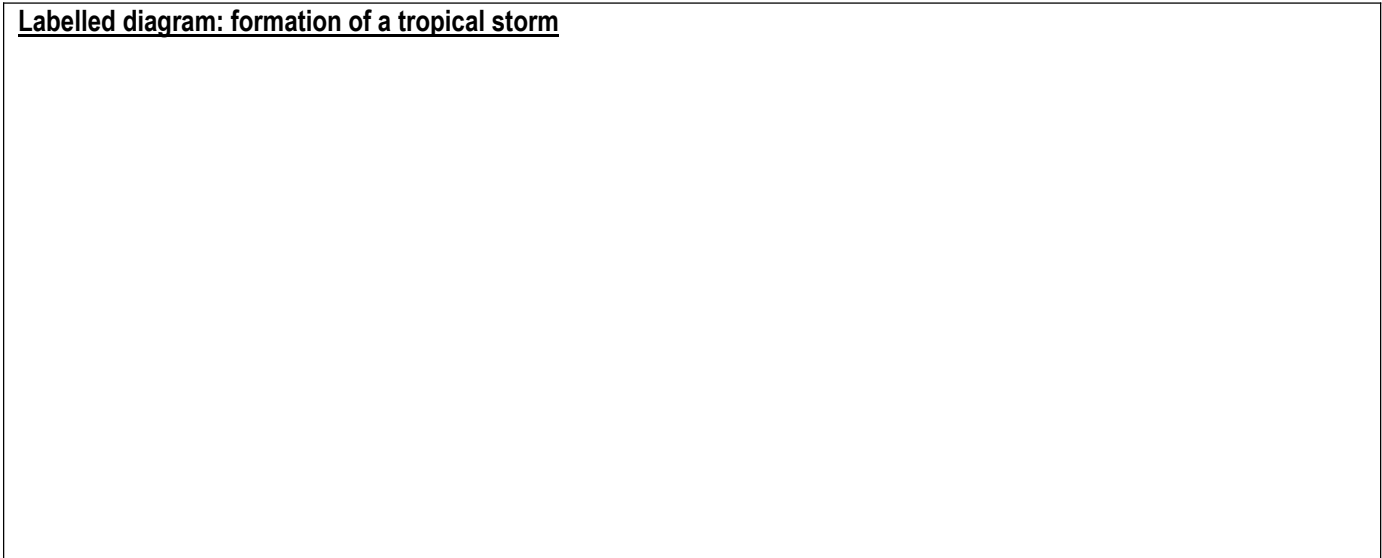
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19. Below is a jumbled list of the events that occur in order for a tropical storm to form. In the box, draw the formation of a tropical storm, and **copy and number the events onto the diagram to show that you know the correct order.**

Jumbled sequence of events: trade winds/westerlies merge smaller clouds / cool air sinks downwards causing vapour in the warm air to condense / as the cloud moves over warm waters more condensation occurs increasing the cloud's size and intensity / cloud forms / if the storm reaches 74mph+ it is classed as a tropical storm / trade winds/westerlies spin the large cloud anticlockwise / oceans with temperatures of 26.5C+ cause mass evaporation

**Labelled diagram: formation of a tropical storm**



20. The paragraph below is about the structure and features of tropical storms. Using the vocabulary provided, fill in the blank spaces. **Vocabulary:** *descending, winds, circular, less, speed, clockwise, high, smaller, eye, eyewall, rain, anticlockwise, increases, hundreds, 7-14, 50km, rain, low*

Tropical storms are \_\_\_\_\_ in shape, \_\_\_\_\_ of kilometres wide and usually last \_\_\_\_\_ days. They spin \_\_\_\_\_ in the southern hemisphere and \_\_\_\_\_ in the northern hemisphere. The centre of the storm is called the \_\_\_\_\_. It is up to \_\_\_\_\_ across and is caused by \_\_\_\_\_ air. In the eye there is very \_\_\_\_\_ pressure, light winds, no clouds, no \_\_\_\_\_ and a \_\_\_\_\_ temperature. The eye is surrounded by the \_\_\_\_\_. Here there is spiralling rising air, very strong \_\_\_\_\_ (around 100 miles per hour), storm clouds, torrential \_\_\_\_\_ and a low temperature. Towards the edges of the storm the wind \_\_\_\_\_ falls, the clouds become \_\_\_\_\_ and more scattered, the rain becomes \_\_\_\_\_ intense and the temperature \_\_\_\_\_.

21. On the aerial image of a tropical storm, label:

- a. **the eye**
- b. **eyewall**
- c. **edge of the storm**
- d. **fastest winds**
- e. **torrential rain**



22. Many experts are worried that climate change will increase the **intensity, frequency** and **distribution** of tropical storms. **Suggest** and **explain** reasons why they are concerned.

**Command words, pages 7 and 9**

One reason why the **intensity** of TS's may increase: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

One reason why the **frequency** of TS's may increase: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

One reason why the **distribution** of TS's may increase: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Key idea: Tropical storms have significant effects on people and the environment.

The specification says that you need to 'Use **a named example of a tropical storm** to show its effects and responses.'



23. Based on your learning of a named example of a tropical storm, complete the table below. Try to **include place-specific details** (e.g. place names) and **facts and figures** (e.g. number of destroyed houses and lives lost).

NAMED EXAMPLE OF A TROPICAL STORM			
Place? _____		Year? _____	
EFFECTS		RESPONSES	
PRIMARY	SECONDARY	IMMEDIATE	LONG-TERM

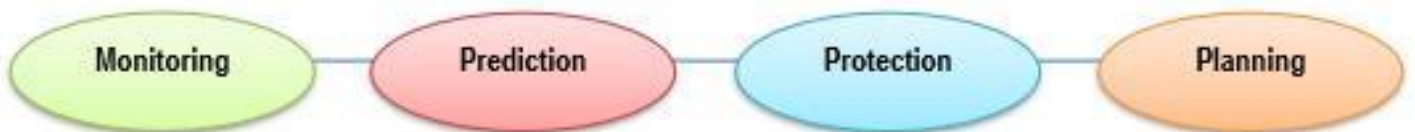

24. You need to be able to **assess** which effects were most/least severe and how effective the responses were for your named example.

The **most severe effects** of the tropical storm were the **primary / secondary** effects, because \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

The **most effective response** to the tropical storm was: \_\_\_\_\_, because \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

The **least effective response** to the tropical storm was: \_\_\_\_\_, because \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

25. **Annotate** each bubble below with examples and say how they can help to reduce the effects of tropical storms. For example, for 'Protection', you could write '*Afforestation absorbs much of the storm's energy when it hits the coastline, reducing the impact on protecting people, property and the environment further inland*'. You should have at least two examples for each bubble.



Key idea: The UK is affected by a number of weather hazards.

26. The UK experiences a wide range of weather hazards, which can have serious effects. Link the hazards to the effects using neat lines.

<b>Thunderstorms</b>	Heavy rain, lightning and strong winds; lightning can cause deaths and fires, which ruin property.	Water supplies may run low, leading to crop failure. Rules may be imposed to conserve water, e.g. hosepipe bans.	Too much of this in a short time can cause flooding, which puts people, property, businesses and the environment at risk. It can disrupt transport networks, destroy communication lines, cause drownings, and may cost millions of pounds to recover.
<b>Rain</b>			
<b>Snow and ice</b>		This can damage crops, damage property and make driving very dangerous.	
<b>Hailstorms</b>	May cause injuries from slipping or deaths due to cold. Schools and businesses may be forced to close, and crops may be ruined.		Can cause deaths from breathing difficulties or heat exhaustion. Roads can melt which disrupts transport, but tourism may benefit.
<b>Wind</b>			
<b>Drought</b>		This may uproot trees and destroy property e.g. ripping off roofs. Flying debris can kill. Forests may be damaged when trees are blown over.	
<b>Heatwaves</b>			

Key idea: Extreme weather events in the UK have impacts on human activity.

The specification says that you need to know '**An example of a recent extreme weather event in the UK: causes; social, economic and environmental and how management strategies can reduce risk**'.

**Named example alert! impacts;**

27. Using the information that you have learned in lesson as well as your own research, complete the table below with facts and figures.

EXAMPLE OF A RECENT EXTREME WEATHER EVENT IN THE UK		
Weather event type? _____ Place? _____ When? _____		
CAUSES	IMPACTS	MANAGEMENT
	Social	Which management strategies were used (before, during and/or after)?
	Economic	Did they reduce risk? If so, how? If not, why not?
	Environmental	



The specification requires that you know evidence to show that weather is becoming more extreme in the UK. To be able to answer the question below, **you should revise the evidence**, for example evidence showing that **temperatures have become more extreme** in recent years, evidence to show that **it's raining more**, and evidence to show that **flooding occurs more often**. **Evidence should include examples and data: without this, you cannot attain more than 2 marks out of 6.**

28. **EXAM-STYLE QUESTION:** 'The weather of the UK is becoming more extreme.' Use evidence to support this statement.  
(6)

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**Climate change**

Key idea: Climate change is the result of natural and human factors, and has a range of effects.

29. What does the term 'climate change' refer to?

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30. What does 'Quaternary period' refer to?

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31. Some evidence for climate change is found using data collected from **tree rings, ice core samples, pollen analysis** and **temperature records**. Select **one** of these and say how it provides evidence that climate change is occurring.

\_\_\_\_\_ provides evidence that climate change is occurring because \_\_\_\_\_

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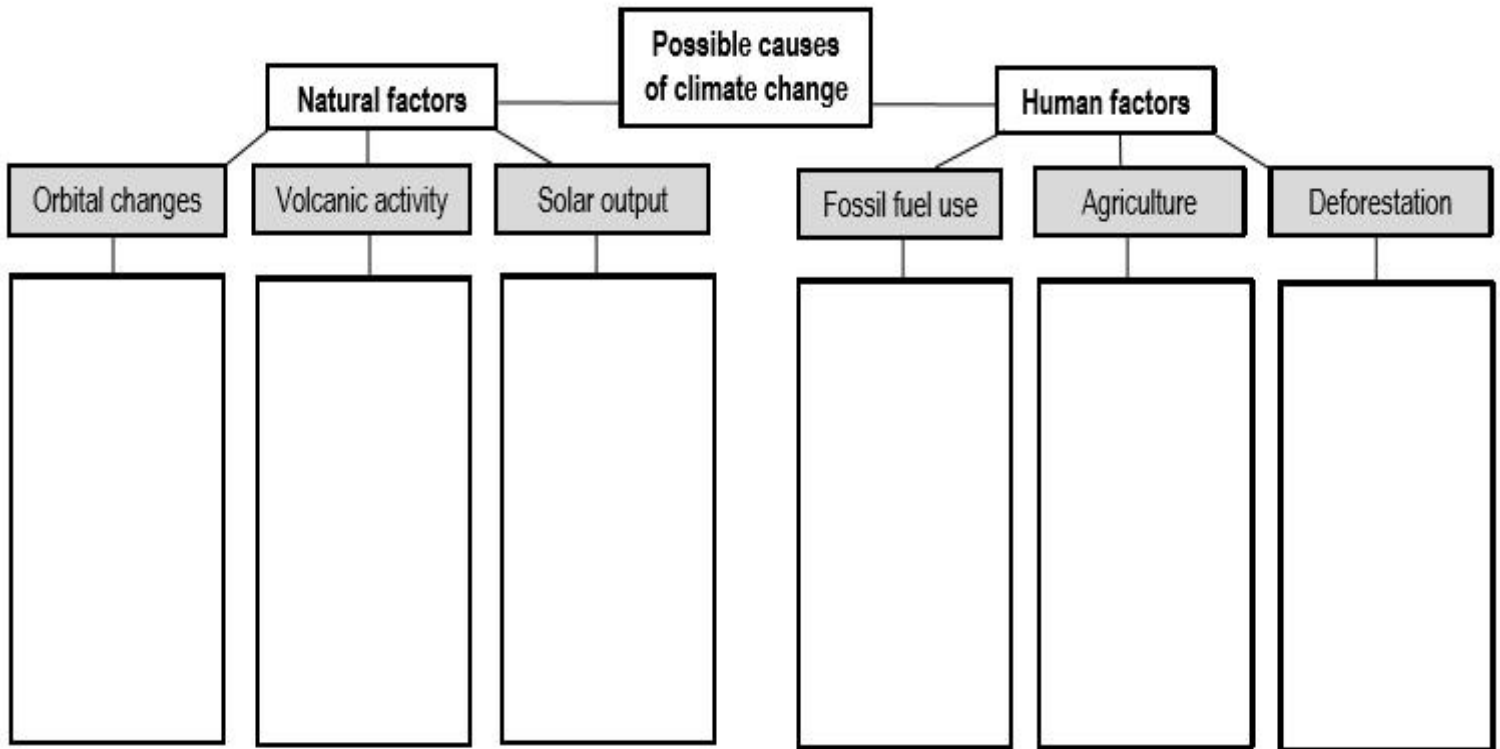
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32. The figure below shows some of the **possible causes of climate change**. Underneath each factor, briefly **explain** how it is thought to cause climate change.



33. Outline the **effects** of climate change on **people** and the **environment**. You may wish to write a paragraph for each, or create a brainstorm. Try to refer to specific places in your answer.

**Command words**

Key idea: Managing climate change involves both mitigation (reducing causes) and adaptation (responding to change).

**Mitigation** and **adaptation** help to manage climate change.

34. **Mitigation** means reducing the causes (of climate change). There are lots of ways that climate change can be **mitigated**. The table below shows four mitigation strategies. You need to fill in the gaps so that each strategy is **described** (say what it is) and **explained** (say how it reduces the causes of climate change).

STRATEGIES TO REDUCE THE CAUSES OF (MITIGATE) CLIMATE CHANGE				
	ALTERNATIVE ENERGY PRODUCTION	CARBON CAPTURE	PLANTING TREES	INTERNATIONAL AGREEMENTS
DESCRIBE THE STRATEGY	<i>This means producing energy from sources that are not fossil fuels. For example, wind, solar and wave energy are all renewable energy sources that provides alternatives to the 'dirty' fuels of coal, oil and gas.</i>		<i>Planting trees can take place on a small or large scale. Individuals can plant extra trees around their home, local organisations can organise volunteers to plant trees in the local area, and governments can pay councils to mass-plant across the country.</i>	<i>International agreements such as the Kyoto Protocol and the Paris Agreement encourage governments to set carbon emissions targets, to increase their alternative energy production, and to reduce their greenhouse gas emissions.</i>
EXPLAIN HOW IT REDUCES THE CAUSES OF CLIMATE CHANGE		<i>Capturing carbon reduces the amount of carbon in the atmosphere. Carbon thickens the atmosphere and traps the sun's radiation, so reducing the amount of carbon in the atmosphere will reduce the amount of heat that becomes trapped, thereby reducing one of the key causes of climate change.</i>		

### 35. **MINI ISSUE EVALUATION TASK**

There are many **adaption** strategies to help us manage climate change and reduce risk. To help you revise this topic and also to practice the **ISSUE EVALUATION** component of Paper 3, you need to decide which strategy you think should be prioritised. On the lines below, say which strategy should be prioritised and how it helps to manage climate change.

**Options: 1- Changing agricultural systems, 2- Managing water supply, 3- Reducing risk from rising sea levels**

Chosen option: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

