Name: GCSE Geography Revision Notes

Paper 1: Living with the physical environment

**Exam paper format**

1 hour 30 for both the Year 11 Mock and the final exam. Answer all questions in Sections A and B, and two questions in Section C (Coasts Q3 and Rivers Q4 – do not answer Q5 about Glaciers). The exam is marked out of 88. There will be three papers for the final exams.

An example of how many marks are awarded for each question is:

Section A: 2, 2, 2, 6, 2, 1, 4, 2, 9 and 3 SPaG.

Section B: 1, 2, 1, 6, 1, 1, 2, 2 and 9.

Section C: 1, 1, 1, 1, 1, 4, 6, 1, 1, 1, 1, 1, 4 and 6.

**K\*** = Page number of the online Kerboodle textbook

**Section A: The challenge of natural hazards** The blank column can be used for a ✓, ? or X to self-evaluate.

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|  | **Natural hazards** |  | **Summary** | K\* |  |
| 1a | Natural hazards pose major risks to people and property. | Definition of a natural hazard. |  | 8-9 |  |
| 1b |  | Types of natural hazard. |  | 8-9 |  |
| 1c |  | Factors affecting hazard risk. |  | 8-9 |  |

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|  | **Tectonic hazards** |  | **Summary** |  |  |
| 2a | Earthquakes and volcanic eruptions are the result of physical processes. | Plate tectonics theory. | *Layers of the Earth, plates and how do the plates move?* | 10 |  |
| 2b |  | Global distribution of earthquakes and volcanic eruptions and their relationship to plate margins. | *Name areas of the world that get earthquakes & volcanoes* | 10-11 |  |
| 2c |  | Physical processes taking place at different types of plate margin (constructive, destructive and conservative) that lead to earthquakes and volcanic activity. | *Draw a labelled diagram for each type of plate margin* | 12-13 |  |
| 2d | The effects of, and responses to, a tectonic hazard vary between areas of contrasting levels of wealth. | Primary and secondary effects of a tectonic hazard. | *List general points i.e. not linked to a case study*   |  |  | | --- | --- | | Primary effects | Secondary effects | | 14 |  |
| 2e |  | Immediate and long-term responses to a tectonic hazard. | *List general points*   |  |  | | --- | --- | | Immediate responses | Long term responses | | 16 |  |
| 2f |  | Use named examples to show how the effects and responses to a tectonic hazard vary between two areas of contrasting levels of wealth. | *HIC: Chile, LIC: Nepal. Give specific facts about the P & S effects and the I & L-T responses* | 14-17 |  |
| 2g | Management can reduce the effects of a tectonic hazard. | Reasons why people continue to live in areas at risk from a tectonic hazard. | *Link to an example(s) such as Iceland* | 18-19 |  |
| 2h |  | How monitoring, prediction, protection and planning can reduce the risks from a tectonic hazard. | *Define each term and try to give examples* | 20-21 |  |

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|  | **Weather hazards** |  | **Summary** | K\* |  |
| 3a | Global atmospheric circulation helps to determine patterns of weather and climate. | General atmospheric circulation model: pressure belts and surface winds. | *Draw and label the model / diagram* | 22-23 |  |
| 3b | Tropical storms (hurricanes, cyclones, typhoons) develop as a result of particular physical conditions. | Global distribution of tropical storms (hurricanes, cyclones, typhoons). | *State which oceans and countries are affected by hurricanes, cyclones and typhoons* | 24 |  |
| 3c |  | An understanding of the relationship between tropical storms and general atmospheric circulation. |  | 22  &  24 |  |
| 3d |  | Causes of tropical storms and the sequence of their formation and development. |  | 24-25 |  |
| 3e |  | The structure and features of a tropical storm. | *Draw a diagram, showing the different clouds types, eye and eye wall* | 26 |  |
| 3f |  | How climate change might affect the distribution, frequency and intensity of tropical storms. | *Make sure you cover distribution (where), frequency (how often) and intensity (how powerful i.e. more Category 4 and 5s)* | 27 |  |
| 3g | Tropical storms have significant effects on people and the environment. | Primary and secondary effects of tropical storms. | *List general points*   |  |  | | --- | --- | | Primary effects | Secondary effects | | 28 |  |
| 3h |  | Immediate and long-term responses to tropical storms. | *List general points*   |  |  | | --- | --- | | Immediate responses | Long term responses | | 29 |  |
| 3i |  | Use a named example of a tropical storm to show its effects and responses. | *E.g. Typhoon Haiyan, Philippines, 2013. Include primary & secondary effects* ***and*** *immediate & long-term responses* | 28-29 |  |
| 3j |  | How monitoring, prediction, protection and planning can reduce the effects of tropical storms. | *Define each term. You may wish to give examples of places too.* | 30-31 |  |
| 3k | The UK is affected by a number of weather hazards. | An overview of types of weather hazard experienced in the UK. | *Give examples e.g. thunderstorms….* | 32-33 |  |
| 3l | Extreme weather events in the UK have impacts on human activity. | An example of a recent extreme weather event in the UK to illustrate:  • causes | *E.g. The Somerset Levels* | 34 |  |
| 3m |  | • social, economic and environmental impacts | |  |  |  | | --- | --- | --- | | Social effects | Economic effects | Environmental effects | | 34  36-37 |  |
| 3n |  | • how management strategies can reduce risk. |  | 35 |  |
| 3o |  | Evidence that weather is becoming more extreme in the UK. | *Give examples of years when there’s been extreme heat / heavy snow / intense storms in the UK* | 38-39 |  |

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|  | **Climate change** |  | **Summary** | K\* |  |
| 4a | Climate change is the result of natural and human factors, and has a range of effects. | Evidence for climate change from the beginning of the Quaternary period to the present day. | *Describe temperature changes during the last 2.6 million years* | 40-41 |  |
| 4b |  | Possible causes of climate change:  • natural factors – orbital changes, volcanic activity and solar output | *Orbital changes = Milankovitch Cycles (Eccentricity, Axial Tilt & Precession).*  *Solar activity = sunspots* | 42-43 |  |
| 4c |  | • human factors – use of fossil fuels, agriculture and deforestation. | *Identify the greenhouse gases that are produced. Also include a diagram showing the enhance greenhouse effect / global warming* | 44-45 |  |
| 4d |  | Overview of the effects of climate change on people and the environment. | *Refer to small examples Himalayas / Maldives / Arctic*   |  |  | | --- | --- | | Effects on people | Effects on the environment | | 48-49 |  |
| 4e | Managing climate change involves both mitigation (reducing causes) and adaptation (responding to change). | Managing climate change:  • mitigation – alternative energy production, carbon capture, planting trees, international agreements | *Alternative energy = renewable (wind / solar) and nuclear power*  *International agreements = Kyoto Protocol, Paris Agreement* | 46-47 |  |
| 4f |  | • adaptation – change in agricultural systems, managing water supply, reducing risk from rising sea levels. | *Agricultural changes = irrigation in the Gambia. Water supply = artificial glaciers in the Himalayas. Sea level rise = Maldives.* | 48-49 |  |

**Section B: The living world**

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|  | **Ecosystems** |  | **Summary** | K\* |  |
| 5a | Ecosystems exist at a range of scales and involve the interaction between biotic and abiotic components. | An example of a small scale UK ecosystem to illustrate the concept of interrelationships within a natural system, an understanding of producers, consumers, decomposers, food chain, food web and nutrient cycling. | *E.g. Fulford School pond. Draw a food chain and a food web. Apply key terms.* | 52-53 |  |
| 5b |  | The balance between components. The impact on the ecosystem of changing one component. | *Explain what happened in the short and long term when the pond at Fulford School changed (i.e. when it was neglected and / or when conservation volunteers restored it)* | 54-55 |  |
| 5c |  | An overview of the distribution and characteristics of large scale natural global ecosystems. | *Describe the location (latitude, continents, countries) of different biomes e.g. TRF, desert, polar, tundra…* | 56-57 |  |

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|  | **Tropical rainforests** |  | **Summary** | K\* |  |
| 6a | Tropical rainforest ecosystems have a range of distinctive characteristics. | The physical characteristics of a tropical rainforest. | *E.g. location, temperature, rainfall, soils. Can you interpret a climategraph and do calculations about the climate data?* | 58-59 |  |
| 6b |  | The interdependence of climate, water, soils, plants, animals and people. | *Give examples of how these are linked* | 59 |  |
| 6c |  | How plants and animals adapt to the physical conditions. | |  |  | | --- | --- | | Adaptations of plants / trees | Adaptations of animals | |  |  | | 59 |  |
| 6d |  | Issues related to biodiversity. | *E.g. impacts of deforestation upon the range of wildlife* | 60 |  |
| 6e | Deforestation has economic and environmental impacts. | Changing rates of deforestation. | *Give some data about whether rates are increasing or decreasing. You may have to interpret a graph.* | 64 |  |
| 6f |  | A case study of a tropical rainforest to illustrate:  • causes of deforestation – subsistence and commercial farming, logging, road building, mineral extraction, energy development, settlement, population growth | *Case study e.g. Amazon rainforest (Brazil) or Malaysian rainforest. Give some detail about each cause. The Amazon case study is not in the Kerboodle book.* | 60-61 |  |
| 6g |  | • impacts of deforestation – economic development, soil erosion, contribution to climate change. | *Some impacts may be positive e.g. upon economic development, others are negative e.g. impacts upon soil quality. You may wish to categorise impacts as economic, social and environmental.* | 62-63 |  |
| 6h | Tropical rainforests need to be managed to be sustainable. | Value of tropical rainforests to people and the environment. | |  |  | | --- | --- | | Value of rainforests to people | Value of rainforest to the environment | |  |  | | 65 |  |
| 6i |  | Strategies used to manage the rainforest sustainably – selective logging and replanting, conservation and education, ecotourism and international agreements about the use of tropical hardwoods, debt reduction. | *Describe how each strategy helps to manage rainforests and then assess the extent to which each strategy is effective. Be specific / use examples where you can.* | 66-67 |  |

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|  | **Cold Environments** |  | **Summary** | K\* |  |
| 7a | Cold environments (polar and tundra) have a range of distinctive characteristics. | The physical characteristics of a cold environment. | *E.g. location, temperature, rainfall, soils. Interpret a climategraph and analyse climate data.* | 78 |  |
| 7b |  | The interdependence of climate, permafrost, soils, plants, animals and people. | *Give examples of how these are linked.* | 78 |  |
| 7c |  | How plants and animals adapt to the physical conditions. | |  |  | | --- | --- | | Adaptations of plants / trees | Adaptations of animals | |  |  | | 79 |  |
| 7d |  | Issues related to biodiversity. | *E.g. discuss the threats facing the range of wildlife (climate change & over fishing / polar bears / impacts on the Arctic food web).* |  |  |
| 7e | Development of cold environments creates opportunities and challenges. | A case study of a cold environment to illustrate:  • development opportunities in cold environments: mineral extraction, energy, fishing and tourism. | *E.g. Svalbard (Norway). Give detail about each opportunity (chance for something good to happen). Include facts, name places & make sure you can explain why it is an opportunity.* | 80-81 |  |
| 7f |  | • challenges of developing cold environments: extreme temperature, inaccessibility, provision of buildings and infrastructure. | *E.g. Svalbard (Norway). Give detail about each challenge (an issue / problem that needs managing).*  *Include facts, name places & make sure you can explain why it is a challenge.* | 82-83 |  |
| 7g | Cold environments are at risk from economic development. | The value of cold environments as wilderness areas and why these fragile environments should be protected. | *Explain the importance of cold environments and describe what can happen if they are not protected e.g. Exxon-Valdez oil spill (1989) – not in Kerboodle.* | 84-85 |  |
| 7h |  | Strategies used to balance the needs of economic development and conservation in cold environments – use of technology, role of governments, international agreements and conservation groups. | *Describe how each strategy helps to manage cold environments and then assess the extent to which each strategy is effective. Be specific / use examples where you can.* | 86-87 |  |

**Section C: Physical landscapes in the UK**

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|  | **UK physical landscapes** |  | **Summary** | K\* |  |
| 8a | The UK has a range of diverse landscapes. | An overview of the location of major upland/lowland areas and river systems. | *Name major rivers, ranges of hills/mountains and lowland areas in the UK. Can you link these to different rock types? Do you know where these are on a map?* | 90-91 |  |

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|  | **Coastal landscapes in the UK** |  | **Summary** | K\* |  |
| 9a | The coast is shaped by a number of physical processes. | Wave types and characteristics (height, length, spilling/plunging, swash/backwash, sediment gain/loss). Diagram. | |  |  | | --- | --- | | Constructive waves | Destructive waves | |  |  | | 92-93 |  |
| 9b |  | Coastal processes:  • weathering processes – mechanical, chemical & biological | *Define weathering and then define each type of weathering.* | 94 |  |
| 9c |  | • mass movement – sliding, slumping and rock falls | *Define terms and sketch a diagram.* | 95 |  |
| 9d |  | • erosion – hydraulic power / action, abrasion and attrition | *Define terms. Also include corrasion and solution / corrosion. Draw diagrams if it helps.* | 96 |  |
| 9e |  | • transportation – longshore drift | *Define transportation and the different types e.g. solution, suspension, saltation and traction. Draw diagrams if it helps.* | 96-97 |  |
| 9f |  | • deposition – why sediment is deposited in coastal areas. | *Define deposition. Explain why & where it happens.* | 97 |  |
| 9g | Distinctive coastal landforms are the result of rock type, structure and physical processes. | How geological structure and rock type influence coastal landforms. | *Which rock types are found at hard coastlines and which at soft coastlines? What are the main features of a hard / soft coastline?* | 98 |  |
| 9h |  | Characteristics and formation of landforms resulting from erosion – headlands and bays, cliffs and wave cut platforms, caves, arches and stacks. | *Draw well labelled diagrams, use terms showing how different types of erosion have created each landform. Also refer to a wave-cut notch. Stack e.g. Old Harry (Dorset) or Eve (Flamborough).* | 99 |  |
| 9i |  | Characteristics and formation of landforms resulting from deposition – beaches, sand dunes, spits and bars. | *Draw well labelled diagrams linked to longshore drift and deposition. Beach (Flamborough). Sand dune (Bridlington / Lyme Regis / Studland Bay in Dorset). Spit (Spurn Point). Bar (Slapton Ley, Devon).* | 100-101 |  |
| 9j |  | An example of a section of coastline in the UK to identify its major landforms of erosion and deposition. | *Holderness Coast (Yorkshire, between Flamborough and Spurn Head)– headland, bay, cave, arch, stack, wave-cut notch, wave-cut platform, longshore drift = Flamborough, spit = Spurn Head. Get photos to show these features. Make sure you can explain how they were formed. Holderness is not in Kerboodle.* |  |  |
| 9k | Different management strategies can be used to protect coastlines from the effects of physical processes. | The costs and benefits of the following management strategies:  • hard engineering – sea walls, rock armour, gabions and groynes | *Define hard engineering. Describe and evaluate the + and – of each strategy. Use diagrams too.* | 106-107 |  |
| 9l |  | • soft engineering – beach nourishment and reprofiling, dune regeneration | *Define hard engineering. Describe and evaluate the + and – of each strategy.* | 108-109 |  |
| 9m |  | • managed retreat – coastal realignment. | *Define and explain managed retreat at Medmerry, West Sussex* | 110-111 |  |
| 9n |  | An example of a coastal management scheme in the UK to show:  • the reasons for management | *E.g. Lyme Regis, Dorset or the Holderness coast. Explain why it needed protecting.* | 112 |  |
| 9o |  | • the management strategy | *Explain the protection methods. Categorise as hard / soft engineering. Use exact figures and locations. Explain how each strategy helped. Keep referring to your case study.* | 112-113 |  |
| 9p |  | • the resulting effects and conflicts. | *Evaluate each strategy – is it working? Good / bad effects. Which groups of people are happy / unhappy about it? Keep referring to your case study.*   |  |  | | --- | --- | | *Successes* | *Failures* | |  |  | | 113 |  |

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|  | **River landscapes in the UK** |  | **Summary** | K\* |  |
| 10a | The shape of river valleys changes as rivers flow downstream. | The long profile and changing cross profile of a river and its valley. | *Draw labelled diagrams of the long profile (from source to mouth) and the cross profile (slice through the width of the river at the upper, middle and lower course). Refer to the river and its valley. Explain the changes.* | 114-115 |  |
| 10b |  | Fluvial processes:  • erosion – hydraulic action, abrasion, attrition, solution, vertical and lateral erosion | *Define each term.* | 116 |  |
| 10c |  | • transportation – traction, saltation, suspension and solution | *Define each term. Diagrams may be helpful.* | 117 |  |
| 10d |  | • deposition – why rivers deposit sediment. | *Define and explain.* | 117 |  |
| 10e | Distinctive fluvial landforms result from different physical processes. | Characteristics and formation of landforms resulting from erosion – interlocking spurs, waterfalls and gorges. | *Draw labelled diagrams of each landform that are found in the upper course of a river.* | 118-119 |  |
| 10f |  | Characteristics and formation of landforms resulting from erosion and deposition – meanders and ox-bow lakes. | *Draw labelled diagrams of each landform that are found in the middle course of a river.* | 120 |  |
| 10g |  | Characteristics and formation of landforms resulting from deposition – levées, flood plains and estuaries. | *Draw labelled diagrams of each landform that are found in the lower course of a river.* | 121 |  |
| 10h |  | An example of a river valley in the UK to identify its major landforms of erosion and deposition. | *E.g. The River Tees from source to mouth, including High Force waterfall.* | 122-123 |  |
| 10i | Different management strategies can be used to protect river landscapes from the effects of flooding. | How physical and human factors affect the flood risk – precipitation, geology, relief and land use. | *Describe each factor and explain how it may lead to flooding.* | 124 |  |
| 10j |  | The use of hydrographs to show the relationship between precipitation and discharge. | *Sketch a hydrograph and label it e.g. rainfall, discharge, rising limb, falling limb, peak rainfall, peak discharge, lag time, baseflow.*  *Then sketch two other simple hydrographs – short & long lag times. Explain the differences i.e. basin size, drainage density, rock type, land use, relief, soil moisture, rainfall intensity.* | 125 |  |
| 10k |  | The costs and benefits of the following management strategies:  • hard engineering – dams and reservoirs, straightening, embankments, flood relief channels | *Describe and evaluate (+/-) each strategy.* | 126-127 |  |
| 10l |  | • soft engineering – flood warnings and preparation, flood plain zoning, planting trees and river restoration. | *Describe and evaluate (+/-) each strategy.* | 128-129 |  |
| 10m |  | An example of a flood management scheme in the UK to show:  • why the scheme was required | *E.g. York (River Ouse) or Banbury, Oxfordshire (River Cherwell). York is not in the Kerboodle book.* |  |  |
| 10n |  | • the management strategy | *Describe and explain the strategies. Categorise as hard and soft engineering.* | 130-131 |  |
| 10o |  | • the social, economic and environmental issues. | *Explain the issues. Keep referring to your case study.*   |  |  |  | | --- | --- | --- | | *Social (effects on people’s lives)* | *Economic (money)* | *Environmental* | |  |  |  | | 130-131 |  |