edexcel

A Level Geography

This draft qualification has not yet been accredited by Ofqual. It is published to enable teachers to have early sight of our proposed approach to Pearson Edexcel Level 3 Advanced GCE in Geography (9GE0). Further changes may be required and no assurance can be given at this time that the proposed qualification will be made available in its current form, or that it will be accredited in time for first teaching in September 2016 and first award in 2018.

Specification DRAFT

Pearson Edexcel Level 3 Advanced GCE in Geography (9GE0)

First teaching from September 2016

First certification from 2018

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Introduction

Why choose Edexcel A Level Geography?

We've listened to feedback from all parts of the geography subject community, including hundreds of fellow teachers. We've used this opportunity of curriculum change to redesign a qualification that is engaging and relevant to today's geographers – a qualification that enables your students to engage critically with real world issues and places, apply their own geographical knowledge, understanding and skills to make sense of the world around them, and to help prepare them to succeed in their chosen pathway.

Engaging and contemporary issues-based approach

Our specification offers an issues-based approach to studying geography, enabling students to explore and evaluate contemporary geographical questions and issues such as the consequences of globalisation, responses to hazards, water insecurity and climate change.

Supports progression to undergraduate level geography

The specification content gives students the opportunity to develop an in-depth understanding of physical and human geography, the complexity of people and environment questions and issues, and to become critical, reflective and independent learners.

Straightforward and flexible content structure

This specification has four equally weighted content components, offering both compulsory and optional content, assessed through three external assessments and one non-examined assessment.

AS and A level qualifications that are co-teachable

Centres co-teaching AS and A level can deliver Area of study 1 Dynamic Landscapes and Area of study 2 Dynamic Places in the first year, allowing students to be entered for the AS at the end of year 12.

Clear assessments that offer all students the chance to succeed

Externally examined papers provide gradual progression in demand throughout the topics and consistent use of 13 different command words so it is clear what the question is asking. Our A level Geography non-examined assessment is straightforward to deliver and manageable.

Confidence in geographical skills and fieldwork

Content is framed by enquiry questions that encourage an investigative and evaluative approach to learning. We have signposted where and how geographical skills and fieldwork should be embedded in teaching. Our A level assessment will integrate the assessment of geographical skills with knowledge and understanding.

Holistic understanding of geography

This specification will encourage students to make links between different geographical themes, ideas and concepts through synoptic themes embedded in the compulsory content.

Support progression from KS4

The content builds on the understanding developed at KS4, avoiding unnecessary repetition while also ensuring that learners new to the subject are appropriately supported.

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Supporting you in planning and implementing this qualification

Planning

- Our **Getting Started** guide gives you an overview of the new AS and A level qualifications to help you to get to grips with the changes to content and assessment and to help you understand what these changes mean for you and your students.
- We will give you editable AS and A level **course planner** and **schemes of work** that you can adapt to suit your department.
- Our **mapping documents** highlight key differences between the new and 2008 qualifications.

Teaching and learning

There will be lots of free teaching and learning support to help you deliver the new qualifications, including:

- topic packs for every topic, including key concepts and processes, place exemplification, and geographical skills
- support for embedding geographical skills and fieldwork into teaching
- training on fieldwork and geographical skills

Preparing for exams

We will also provide a range of resources to help you prepare your students for the assessments, including:

- additional specimen papers to support formative assessments and mock exams
- marked exemplars of student work in external assessments and the A level non-examined assessment, with examiner commentaries
- training on how to use our mark schemes and mark our specimen papers
- free standardisation events and trial marking materials for the new A level non exam assessment.

ResultsPlus

ResultsPlus provides the most detailed analysis available of your students' exam performance. It can help you identify the topics and skills where further learning would benefit your students.

Get help and support

Our subject advisor service, led by Jon Wolton, and online communities, will ensure you receive help and guidance from us and that you can share ideas and information with other teachers. You can sign up to receive e-newsletters from Jon to keep up to date with qualifications and product and service news.

Learn more at qualifications.pearson.com

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Qualification at a glance

Content and assessment overview

The Pearson Edexcel Level 3 Advanced GCE in Geography consists of three externally examined papers and one coursework component.

Students must complete all assessment in May/June in any single year.

Paper 1 (Paper code: 9GE0/01)
Written examination: 2 hours ***30% of the qualification*** ***90 marks***
Content overview • Area of study 1 Topic 1: Tectonic Processes and Hazards • Area of study 1 Topic 2: Landscape Systems, Processes and Change • Area of study 3 Topic 5: The Water Cycle and Water Insecurity • Area of study 3 Topic 6: The Carbon Cycle and Energy Security • Area of study 3 Topic 7: Climate Change Futures
Assessment overview An externally-assessed written examination comprising four sections. Students answer **all** questions in Section A (Tectonic Processes and Hazards), Section C (The Water Cycle and Water Insecurity) and Section D (The Carbon Cycle and Energy Security). Students answer **either** Question 2 (Glaciated Landscapes and Change) **or** Question 3 (Coastal Landscapes and Change) in Section B (Glaciated Landscapes and Change and Coastal Landscapes and Change). The examination may include short open, open response and resource-linked questions. The examination includes 10-mark and 15-mark extended writing questions. Calculators may be used.

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Paper 2 (Paper code: 9GE0/02)
Written examination: 2 hours ***30% of the qualification*** ***90 marks***
Content overview • Area of study 2 Topic 3: Globalisation • Area of study 2 Topic 4: Shaping Places • Area of study 4 Topic 8: Superpowers • Area of study 4 Topic 9: Global Development and Connections
Assessment overview An externally-assessed written examination comprising four sections. Students answer **all** questions in Section A (Globalisation) and Section C (Superpowers). Students answer **one** question from Section B (Regenerating Places and Diverse Places) and **one** question from Section D (Health, Human Rights and Intervention; Migration, Identity and Sovereignty). The examination may include short open, open response and resource-linked questions. The examination includes 10-mark and 15-mark extended writing questions. Calculators may be used.

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Paper 3 (*Paper code: 9GE0/03)
Written examination: 1 hour and 45 minutes ***20% of the qualification*** ***60 marks***
Content overview The specification contains three synoptic themes within the compulsory content areas: • Players • Attitudes and actions • Futures and uncertainties • The synoptic investigation will be based on a geographical issue within a place-based context that links to the three synoptic themes and is rooted in two or more of the compulsory content areas.
Assessment overview An externally-assessed written examination comprising three sections. A resource booklet will contain information about the geographical issue. Students answer **all** questions in Section A, Section B and Section C. Sections A, B and C all draw synoptically on knowledge and understanding from compulsory content drawn from different parts of the course. The examination may include short open, open response and resource-linked questions. The examination includes 6-mark, 15-mark and 18-mark extended writing questions. Calculators may be used.

Coursework: Independent Investigation (9GE0/04)
Non-examined assessment ***20% of the qualification*** ***60 marks***
Content overview • The student defines a question or issue for investigation, relating to the compulsory or optional content. The topic may relate to any aspect of geography contained within the specification • The student's investigation will incorporate fieldwork data (collected individually or as part of a group) and own research and/or secondary data • The fieldwork which forms the focus and context of the individual investigation may be either human, physical or integrated physical-human • The investigation report will evidence independent analysis and evaluation of data, presentation of data findings and extended writing • Students will be expected to show evidence that they have used both quantitative and qualitative data to support their independent investigation as appropriate to the particular environment and / or location.
Assessment overview • The investigation report is internally assessed and externally moderated. • The student will produce a written report of 3000–4000 words.

*See *Appendix 10: Codes* for a description of this code and all other codes relevant to this qualification.

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2 Subject content and assessment information

The subject content sets out the knowledge, understanding and skills relevant to this qualification. Together with the assessment information, it provides the framework within which centres create their programmes of study, so ensuring progression from AS requirements and the possibilities for progression to higher education.

Qualification aims and objectives

This specification for the discipline of geography encourages students to gain enjoyment, satisfaction and a sense of achievement as they develop their knowledge and understanding of the subject. This A Level course will enable students to be inspired by their geographical understanding, to engage critically with real world issues and places, and to apply their geographical knowledge, theory and skills to the world around them. Students will grow as independent thinkers and as informed and engaged citizens, who understand the role and importance of geography as one of the key disciplines relevant to understanding the world's changing peoples, places and environments.

The aims and objectives of this qualification are to enable students to build on their AS knowledge and skills to:

- develop their knowledge of locations, places, processes and environments, at all geographical scales from local to global across the specification as a whole
- develop an in-depth understanding of the selected core and non-core processes in physical and human geography at a range of temporal and spatial scales, and of the concepts that illuminate their significance in a range of locational contexts
- recognise and be able to analyse the complexity of people–environment interactions at all geographical scales, and appreciate how these underpin understanding of some of the key issues facing the world today
- develop their understanding of, and ability to apply, the concepts of place, space, scale and environment, that underpin both the national curriculum and GCSE, including developing a more nuanced understanding of these concepts
- gain understanding of specialised concepts relevant to the core and non-core content. These must include the concepts of causality, systems, equilibrium, feedback, inequality, representation, identity, globalisation, interdependence, mitigation and adaptation, sustainability, risk, resilience and thresholds
- improve their understanding of the ways in which values, attitudes and circumstances have an impact on the relationships between people, place and environment, and develop the knowledge and ability to engage, as citizens, with the questions and issues arising ('circumstances' in this case refers to the context of people's lives, the socio-economic and political milieu in which they find themselves)
- become confident and competent in selecting, using and evaluating a range of quantitative and qualitative skills and approaches, (including observing, collecting and analysing geo-located data) and applying them as an integral part of their studies
- understand the fundamental role of fieldwork as a tool to understand and generate new knowledge about the real world, and become skilled at planning, undertaking and evaluating fieldwork in appropriate situations
- apply geographical knowledge, understanding, skills and approaches in a rigorous way to a range of geographical questions and issues, including those identified in fieldwork, recognising both the contributions and limitations of geography

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- develop as critical and reflective learners, able to articulate opinions, suggest relevant new ideas and provide evidenced argument in a range of situations
- build on knowledge of contexts, locations, places and environments, by extending the scope and scale of study, the variety of physical, social, economic, cultural and political contexts encountered, the depth of conceptual understanding required, and the range of spatial and temporal scales included
- develop a deep understanding of both physical and human processes, applying this understanding to interrogate people–environment interactions and people-place connections at all scales from local to global
- build on and reinforce conceptual understanding underpinning GCSE, experiencing an extended demand that includes a wider range of more complex and specialised concepts that relate to the core and non-core content
- engage with models, theories and generalisations, and develop a mature understanding of the nature and limitations of objectivity and the significance of human values and attitudes
- develop understanding of the rationale for, and applications of, skills and approaches used, showing a considerable degree of independence in selecting and using a wide range of geographical methods, techniques and skills, involving both qualitative and quantitative methods
- undertake fieldwork that encourages them to apply and evaluate theory in the real world, and that A Level fieldwork in particular demands a high degree of responsibility from students for selecting research questions, applying relevant techniques and skills, and identifying appropriate ways of analysing and communicating findings.

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Geographical skills

This qualification requires students to evidence a variety of geographical skills, showing a critical awareness of the appropriateness and limitations of different methods, skills and techniques.

Full details of the required geographical skills are provided in *Appendix 1: Geographical skills.*

Fieldwork

A Level students must complete a minimum of **four** days of fieldwork. Fieldwork must be carried out in relation to physical and human geography. This is a Department for Education (DfE) requirement. Centres will be required to provide evidence of this fieldwork in the form of a written fieldwork statement. The fieldwork statement represents a true and accurate written declaration made by a centre to Pearson, confirming that a student to which that centre has delivered the A Level Geography assessment has undertaken geographical fieldwork over four days and in both physical and human environments.

In the coursework component, students are required to undertake an independent investigation that involves (but need not be restricted to) fieldwork, producing a written report. Students' investigations will incorporate fieldwork data (collected individually or as part of a group). Students will be expected to show evidence that they have used both quantitative and qualitative data to support their independent investigation as appropriate to the particular environment and / or location.

Full details of the required fieldwork skills are provided in *Appendix 2: Fieldwork skills.*

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How to use the content section of the specification

Overview

Each topic begins with an overview. This provides an explanation of the relevance of the topic to modern geography. It also outlines links between the topic and other areas of the specification. The overview does not form part of the assessed content, but could be used by teachers when introducing a new topic to students.

Enquiry questions

Each topic contains three or four enquiry questions. The enquiry questions should form the basis for the study of that topic. Enquiry questions encourage active learning and an investigative, critically evaluative approach. An enquiry question, combined with the key ideas in the left-hand column of the specification content, can be used as the starting point to develop learning objectives for one or more lessons.

Guidance for integrating geographical skills

This qualification requires students to evidence a variety of geographical skills, showing a critical awareness of the appropriateness and limitations of different methods, skills and techniques.

Guidance on integrating these skills has been provided for each content topic under '*Guidance for integrating geographical skills*' tables. This guidance provides suggested opportunities for integrating the full range of skills outlined in the geographical skills appendix. Opportunities to integrate geographical skills are indicated by bracketed numbers in the detailed content, (1) for example. These skills are **not** exclusive to the topic areas under which they appear; students will need to be able to apply these skills across any suitable topic area throughout their course of study.

Full details of the required geographical skills are provided in *Appendix 1: Geographical skills.*

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Synoptic themes within the compulsory content areas

This specification contains **three** synoptic themes. These are over-arching themes designed to help students make links between different geographical themes, ideas and concepts. The synoptic themes incorporate specialist geographical concepts, namely: causality, systems, feedback, inequality, identity, globalisation, interdependence, mitigation and adaption, sustainability, risk, resilience and thresholds. The synoptic themes are highlighted in the specification in ***bold italics***.

In this qualification, Paper 3 is a synoptic investigation that will link explicitly and / or implicitly to these synoptic themes and will incorporate key concepts.

The three synoptic themes are:

1. Players **(P)**	Who are the different players (individuals, groups and organisations, stakeholders) involved in geographical issues and decisions (interdependence, globalisation, systems)? Why do some players have greater influence than others (inequality)? This includes: international players (intergovernmental organisations (IGOs)), national and local government, large and small private businesses, transnational corporations (TNCs), pressure groups and non-governmental organisations (NGOs) as well as others in particular contexts.
2. Attitudes and actions **(A)**	Why do attitudes to geographical issues (identity) vary so greatly and how does this influence actions (policies and choice of strategy and management methods)? Influences on values and attitudes include identity, political and religious views, priority given to profit, importance of social justice and equality and attitudes towards the natural environment (conservation and sustainability versus exploitation).
3. Futures and uncertainties **(F)**	There are contrasting approaches when making decisions about geographical issues that will affect people in the future. These include business as usual, priority towards more sustainable strategies and radical alternatives (mitigation and adaptation). Choice of objective will affect both people and the environment in very different ways (risk, resilience and thresholds). The outcomes of choices made today are uncertain for a range of reasons including scientific, demographic, economic and political uncertainty.

Place contexts

Where the detailed content in the specification must be studied in context, this is indicated by brackets containing the symbol 🌍 , followed in some cases by suggested place contexts. These suggestions are not compulsory, and a similar suitable context could be chosen. The choice of place contexts is designed to include developed, emerging and developing economies, and this will be reflected in the choice of location and over the examination cycle.

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Area of study 1: Dynamic Landscapes

Topic 1: Tectonic Processes and Hazards

Overview

Tectonic hazards – earthquakes, volcanic eruptions and secondary hazards such as tsunamis – represent a significant risk in some parts of the world. This is especially the case where active tectonic plate boundaries interact with areas of high population density and low levels of development. Resilience in these places can be low, and the interaction of physical systems with vulnerable populations can result in major disasters. An in-depth understanding of the causes of tectonic hazards is key to both increasing the degree to which they can be managed, and putting in place successful responses that can mitigate social and economic impacts and allow humans to adapt to hazard occurrence.

Content

Enquiry question 1: Why are some locations more at risk from tectonic hazards?	
Key idea	**Detailed content**
1.1 The global distribution of tectonic hazards can be explained by plate boundary and other tectonic processes.	a. The global distribution and causes of earthquakes, volcanic eruptions and tsunamis. (1)
	b. The distribution of plate boundaries resulting from divergent, convergent and conservative plate movements (oceanic, continental and combined situations).
	c. The causes of intra-plate earthquakes, and volcanoes associated with hot spots from mantle plumes.
1.2 There are theoretical frameworks that attempt to explain plate movements.	a. The theory of plate tectonics and its key elements (the earth's internal structure, mantle convection, palaeomagnetism and sea floor spreading, subduction and slab pull).
	b. The operation of these processes at different plate margins (destructive, constructive, collision and transform). (2)
	c. Physical processes impact on the magnitude and type of volcanic eruption, and earthquake magnitude and focal depth (Benioff zone).
1.3 Physical processes explain the causes of tectonic hazards.	a. Earthquake waves (P, S and L waves) cause crustal fracturing, ground shaking and secondary hazards (liquefaction and landslides).
	b. Volcanoes cause lava flows, pyroclastic flows, ash falls, gas eruptions, and secondary hazards (lahars, jökulhlaup).
	c. Tsunamis can be caused by sub-marine earthquakes at subduction zones as a result of sea-bed and water column displacement. (3)

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Enquiry question 2: Why do some tectonic hazards develop into disasters?	
Key idea	**Detailed content**
2.1 Disaster occurrence can be explained by the relationship between hazards, vulnerability, resilience and disaster.	a. Definition of a natural hazard and a disaster, the importance of vulnerability and a community's threshold for resilience, the hazard risk equation.
	b. The Pressure and Release model (PAR) and the complex inter-relationships between the hazard and its wider context.
	c. The social and economic impacts of tectonic hazards (volcanic eruptions, earthquakes and tsunamis) on the people, economy and environment of contrasting locations in the developed, emerging and developing world.
2.2 Tectonic hazard profiles are important to an understanding of contrasting hazard impacts, vulnerability and resilience.	a. The magnitude and intensity of tectonic hazards is measured using different scales (Mercalli, Modified Mercalli (MM) and Volcanic Explosivity Index (VEI)).
	b. Comparing the characteristics of earthquakes, volcanoes and tsunamis (magnitude, speed of onset and areal extent, duration, frequency, spatial predictability) through hazard profiles.
	c. Profiles of earthquake, volcano and tsunami events showing the severity of social and economic impact in developed, emerging and developing countries. (4)
2.3 Development and governance are important in understanding disaster impact and vulnerability and resilience.	a. Inequality of access to education, housing, healthcare and income opportunities can influence vulnerability and resilience.
	b. Governance (***P: local and national government***) and geographical factors (population density, isolation and accessibility, degree of urbanisation) influence vulnerability and a community's resilience.
	c. Contrasting hazard events in developed, emerging and developing countries to show the interaction of physical factors and the significance of context in influencing the scale of disaster. (5)

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Enquiry question 3: How successful is the management of tectonic hazards and disasters?	
Key idea	**Detailed content**
3.1 Understanding the complex trends and patterns for tectonic disasters helps explain differential impacts.	a. Tectonic disaster trends since 1960 (number of deaths, numbers affected, level of economic damage) in the context of overall disaster trends. (6); research into the accuracy and reliability of the data to interpret complex trends.
	b. Tectonic mega-disasters can have regional or even global significance in terms of economic and human impacts. (🌍 2004 Asian tsunami, 2010 Eyafjallajokull eruption Iceland (global independence) and 2011 Japanese tsunami (energy policy))
	c. The concept of a multiple-hazard zone and how linked hydrometeorological hazards sometimes contribute to a tectonic disaster (🌍 Philippines).
3.2 Theoretical frameworks can be used to understand the predication, impact and management of tectonic hazards.	a. Prediction and forecasting (***P: role of scientists***) accuracy depend on the type and location of the tectonic hazard.
	b. The importance of different stages in the hazard management cycle (response, recovery, mitigation, preparedness). (***P: role of emergency planners***)
	c. Use of Park's Model to compare the response curve of hazard events, comparing areas at different stages of development.
3.3 Tectonic hazard impacts can be managed by a variety of mitigation and adaptation strategies, which vary in their effectiveness.	a. Strategies to modify the event include land-use zoning, hazard - resistant design and engineering defences as well as diversion of lava flows .(***P: role of planners, engineers***) (7)
	b. Strategies to modify vulnerability and resilience include hi-tech monitoring, prediction, education, community preparedness and adaptation. (F: models forecasting disaster impacts with and without modification)
	c. Strategies to modify loss include emergency, short and longer term aid and insurance (***P: role of NGOs and insurers)*** and the actions of affected communities themselves.

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Guidance for integrating geographical skills for Topic 1

The following skills provide suggested opportunities for integrating the full range of skills outlined in the geographical skills appendix (Appendix 1). These skills are **not** exclusive to the topic areas under which they appear; students will need to be able to apply these skills across any suitable topic area throughout their course of study.

(1) Analysis of hazard distribution patterns on world and regional scale maps.
(2) Use of block diagrams to identify key features of different plate boundary settings.
(3) Analysis of tsunami time-travel maps to aid prediction.
(4) Use of correlation techniques to analyse links between magnitude of events, deaths and damage.
(5) Statistical analysis of contrasting events of similar magnitude to compare deaths and damage.
(6) Interrogation of large data sets to assess data reliability and to identify and interpret complex trends.
(7) Use of Geographic Information systems (GIS) to identify hazard risk zones and degree of risk related to physical and human geographical features.

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Topic 2: Landscape Systems, Processes and Change
Option 2.1: Glaciated Landscapes and Change

Overview

Ice sheets and glaciers operate within a landscape system as glacial processes of erosion, transport and deposition combine with meteorological and climatological processes and interact with geological and lithological processes to produce distinctive landscapes. The landscapes can be both present day and relict and can occur in both upland and lowland areas. These landscapes are being changed by both physical processes and human activities which pose unique threats due to the low level of resilience found in these areas.

Content

Enquiry question 1: How has climate change influenced the formation of glaciated landscapes over time?	
Key idea	**Detailed content**
1.1 The causes of climate change vary on different timescales.	a. Glacial and interglacial periods caused by Pleistocene climate change.
	b. The causes of long-term climate change: Milankovitch cycles as the primary driver and the role of variations in solar output. (1)
	c. The characteristics and causes of shorter-term climate events: Loch Lomond Stadial (Pleistocene) and the Little Ice Age (Holocene).
1.2 There are a variety of high altitude and high latitude cold environments.	a. The definition of the cryosphere and classification scale and location and polar and temperate environment (ice sheets, ice caps, valley glaciers, snow field).
	b. The present distribution of high latitude ice sheets and evidence for Pleistocene ice sheet extent.
	c. The present distribution of high altitude upland glaciated landscapes and evidence of relict landscapes from the Pleistocene. (2)
1.3 Periglacial processes produce distinctive landscapes.	a. Distribution of past and present periglacial landscapes which are underlain by continuous, discontinuous areas and sporadic permafrost with a seasonally active layer.
	b. Periglacial processes include nivation, frost heave, freeze-thaw weathering and solifluction as well as high winds and meltwater erosion.
	c. The formation of often unique periglacial landforms (ice wedges, patterned ground, pingos, loess) contributes towards the occurrence of distinctive periglacial landscapes (🌍 northern Russia and northern Canada).

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Enquiry question 2: What processes operate within glacier systems?	
Key idea	**Detailed content**
2.1 Mass balance is important in understanding glacial dynamics and the operation of glaciers as systems.	a. Glacial mass balance system and the relationship between accumulation and ablation in the maintenance of equilibrium. (3)
	b. The process of accumulation (direct snowfall, sublimation, avalanches and wind deposition), and reasons for variation in the rate of accumulation
	c. The process of ablation (melting, calving, evaporation and avalanches), and reasons for variation in rate of ablation.
2.2 Different processes explain glacial movement and variations in rates.	a. Polar and temperate glaciers have different rates of movement.
	b. There are different processes that are important in the movement of glaciers (basal slip, regelation creep, internal deformation).
	c. A number of factors control the rate of movement (altitude, slope, lithology, size and variations in mass balance) with both positive and negative feedback in the system. (4)
2.3 The imprint of glaciation can be seen through glacial landforms of different scales and morphologies which can be used to study ice extent and provenance.	a. Glaciated landscapes include an assemblage of major erosional landforms, ice sheet eroded knock and lochan, and upland ice sheet (corries, arête, pyramidal peaks, troughs) which are used to indicate areas of ice occurrence.
	b. Glaciated landscapes include depositional landforms (moraines, boulder clay blankets) which are used to indicate ice extent.
	c. Micro features can be indicators of former glaciation (striations, glacial grooves, chattermarks and polished rock).

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Enquiry question 3: How do characteristic glacial landforms contribute to glaciated landscapes?	
Key idea	**Detailed content**
3.1 Glacial erosion creates distinctive landforms and contributes to glaciated landscapes.	a. Glacial, erosional processes (abrasion, quarrying, plucking, crushing and basal melting as well as subaerial freeze thaw and mass movement).
	b. The processes forming landforms associated with valley glaciers (cirques/corries (5), arêtes, pyramidal peaks, glacial troughs, truncated spurs and hanging valleys and ribbon lakes).
	c. The formation of landforms due to ice sheet scouring (roches moutonnées, knock and lochan, crag and tail) and the influence of differential geology.
3.2 Glacial deposition creates distinctive landforms and contributes to glaciated landscapes.	a. The formation of ice contact depositional features (medial, lateral, recessional and terminal moraines and drumlins).
	b. The formation of lowland depositional features (till plains, lodgement and ablation till). (6)
	c. The assemblage of landforms can be used to reconstruct former ice extent and movement (erratics, moraines, crag and tail, drumlin orientation). (7)
3.3 Glacial meltwater plays a significant role in creating distinctive landforms and contributes to glaciated landscapes.	a. The processes of water movement within the glacial system (supraglacial, englacial and sub-glacial flows).
	b. Glacial and fluvioglacial deposits have different characteristics (stratification, sorting, imbrication and grading). (8)
	c. The formation of fluvio-glacial landforms; ice contact features (kames and eskers and kame terraces) and proglacial features (sandurs, pro-glacial lakes, meltwater channels, and kettleholes).

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Enquiry question 4: How are glaciated upland landscapes used and managed today?	
Key idea	**Detailed content**
4.1 Glacial and periglacial landscapes have intrinsic cultural, economic and environmental value.	a. Relict and active glaciated landscapes have cultural uses (scientific research, leisure and recreation and spiritual and religious associations).
	b. Glaciated landscapes are important economically (pastoral agriculture, hydroelectric power, tourism, forestry).
	c. Glaciated landscapes have a unique biodiversity and play an important role in the maintenance of natural systems (water cycle).
4.2 There are threats facing fragile active and relict glaciated upland landscapes.	a. Glaciated landscapes face varying degrees of threat from human activity (leisure and tourism, reservoir construction, urbanisation).
	b. Human activity can degrade the landscape and fragile ecology of glaciated landscapes (soil erosion, trampling, landslides, deforestation).
	c. Global warming is altering glacial mass balances, which in turn risks disruption of the hydrological cycle (river discharge, sediment yield, water quality). (9)
4.3 Threats to glaciated landscapes can be managed using a spectrum of approaches.	a. Different stakeholders (conservationists, local and regional government, global organisations, NGOs) are involved in managing glaciated landscapes.
	b. Legislative frameworks are used to protect and conserve landscapes by conservation and management (🌍 Antarctic Treaty and Alpine Convention).
	c. Climate warming is a context risk meaning that successful management of these unique and fragile landscapes is increasingly challenging, with a need for coordinated approaches at global, national and local scale.

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Guidance for integrating geographical skills for Topic 2 Option 2.1

The following skills provide suggested opportunities for integrating the full range of skills outlined in the geographical skills appendix (Appendix 1). These skills are **not** exclusive to the topic areas under which they appear; students will need to be able to apply these skills across any suitable topic area throughout their course of study.

(1) Graphical analysis of reconstructed climate versus landform evidence for past glacial/interglacial periods.
(2) Comparison of past and present distribution of glaciated landscapes using global and regional maps.
(3) Use of numerical data to calculate simple mass balance and equilibrium line position
(4) Using statistical tests (student T test) to compare rates of glacier movement.
(5) Cirque orientation analysis using OS maps.
(6) Till fabric analysis using rose diagrams.
(7) Use of British Geological Society (BGS) glacial drift maps, Ordnance Survey (OS) maps and GIS to reconstruct past ice extent and ice flow direction.
(8) Use of student T test to analyse changes in sediment size and shape in outwash plains; central tendency analysis of both glacial and fluvioglacial deposits.
(9) Numerical analysis of mean rates of glacial recession in different global regions.

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Topic 2: Landscape Systems, Processes and Change
Option 2.2: Coastal Landscapes and Change

Overview

Coastal landscapes develop due to the interaction of winds, waves and currents as well as through the contribution of both terrestrial and offshore sources of sediment. These flows of energy and variations in sediment budgets interact with the prevailing geological and lithological characteristics of the coast to operate as coastal systems and to produce distinctive coastal landscapes in rocky, sandy and estuarine coastlines. These landscapes are increasingly under threat from both physical processes and human activities, and there is a need for holistic and sustainable management of these areas.

Content

Enquiry question 1: Why are coastal landscapes different and what processes cause these differences?	
Key idea	**Detailed content**
1.1 The coast, and wider littoral zone, has distinctive features and landscapes.	a. The littoral zone consists of backshore, nearshore and offshore zones; rocky coastlines and coastal plains (sandy coastline and estuarine coasts) have distinct physical characteristics. (1)
	b. Rocky coasts (high and low relief) result from resistant geology (to the erosive forces of sea, rain and wind), often in a high-energy environment, but the degree of resistance varies.
	c. Coastal plain landscapes are found in areas of low relief and result from supply of sediment from different terrestrial and offshore sources, often in a low energy environment.
1.2 Geological structure influences the development of coastal landscapes.	a. Geological structure is responsible for the formation of concordant and discordant coasts.
	b. Geological structure influences coastal morphology: Dalmatian and Haff type concordant coasts and headlands and bays on discordant coasts.
	c. Geological structure (jointing, dip, faulting, folding) is an important influence on coastal morphology and erosion rates. (2)
1.3 Rates of coastal recession and stability depend on lithology and other factors.	a. Bedrock lithology (igneous, sedimentary, metamorphic) and unconsolidated material geology are important in understanding rates of coastal recession.
	b. Differential erosion of alternating strata in cliffs (permeable/impermeable, resistant/less resistant) produces complex cliff profiles and influences recession rates. (3)
	c. Vegetation is important in stabilising sandy coastlines through dune successional development on sandy coastlines and salt marsh successional development in estuarine areas.

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Enquiry question 2: How do characteristic coastal landforms contribute to coastal landscapes?	
Key idea	**Detailed content**
2.1 Marine erosion creates distinctive coastal landforms and contributes to coastal landscapes.	a. Different wave types (constructive/destructive) influence beach morphology and beach sediment profiles, which vary seasonally. (4)
	b. The importance of erosion processes (hydraulic action, corrosion, abrasion, attrition) is influenced by wave type, size and lithology.
	c. Erosion creates distinctive coastal landforms (wave cut notches, wave cut platforms, cliffs, cave-arch-stack-stump sequence).
2.2 Sediment transport and deposition create distinctive landforms and contribute to coastal landscapes.	a. Sediment transportation is influenced by angle of wave attack, tides and currents and the process of longshore drift. (5)
	b. Transportation and deposition processes produce distinctive coastal landforms (spits (recurved and double), offshore bars, barrier beaches and bars, tombolos and cuspate forelands) which can be stabilised by plant succession.
	c. The Sediment Cell concept (sources, transfers and sinks) is important in understanding the coast as a system with both negative and positive feedback, it is an example of dynamic equilibrium.
2.3 Sub- aerial processes of mass movement and weathering influence coastal landforms and contribute to coastal landscapes.	a. Weathering (mechanical, chemical, biological) is important in sediment production and influences rates of recession.
	b. Mass movement (blockfall, rotational slumping, landslides) is important on some coasts with weak and/or complex geology.
	c. Mass movement creates distinctive landforms (rotational scars, talus scree slopes, terraced cliff profiles).

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Enquiry question 3: How do coastal erosion and sea level change alter the physical characteristics of coastlines and increase risks?	
Key idea	**Detailed content**
3.1 Sea level change influences coasts on different timescales.	a. Sea levels change results from a complex interplay of factors both eustatic (ice formation/melting, thermal changes) and isostatic (post glacial adjustment, subsidence, accretion) and tectonics.
	b. Sea level change has produced emergent coastlines (raised beaches with fossil cliffs, Haff coastlines) and submergent coastlines (rias, fjords and Dalmatian). (6)
	c. Contemporary sea level change from global warming or tectonic activity is a risk to some coastlines.
3.2 Rapid coastal retreat causes threats to people at the coast.	a. Rapid coastal recession is caused by physical factors (geological and marine) but can be influenced by human actions (🌍 Holderness, Christchurch Bay, north Norfolk).
	b. Sub-areal processes (weather and mass movement) work together to influence rates of coastal recession.
	c. Rates of recession are not constant and are influenced by different factors (wind direction / fetch, tides, seasons, weather systems and occurrence of storms) (7)
3.3 Coastal flooding is a significant and increasing risk for some coastlines.	a. Local factors increase flood risk on some coasts (height, degree of subsidence, vegetation removal); global sea level rise further increases risk (🌍 Bangladesh, Maldives).
	b. Storm surge events (depressions, tropical cyclones) can cause severe coastal flooding (🌍 Philippines, Bangladesh).
	c. Climate change may increase coastal flood risk (frequency and magnitude of storms, sea level rise) but the pace and magnitude of this threat is uncertain.

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Enquiry question 4: How can coastlines be managed to meet the needs of all players?	
Key idea	**Detailed content**
4.1 Increasing risks of coastal recession and coastal flooding have serious consequences for affected communities.	a. Economic losses (housing, businesses, agricultural land, infrastructure) and social losses (relocation, loss of livelihood, amenity value) from coastal recession can be significant.
	b. Coastal flooding and storm surge events can have serious economic and social consequences for coastal communities (🌍 Philippines, Bangladesh).
	c. Climate change may create environmental refugees in coastal areas (🌍 Tuvalu Islands).
4.2 There are different approaches to managing the risks associated with coastal recession and flooding.	a. Hard engineering approaches (groynes, sea walls, rip rap, revetments, off-shore breakwaters) are economically costly and directly alter physical processes and systems. (8)
	b. Soft engineering approaches (beach nourishment, cliff re-grading and drainage, dune stabilisation) attempt to work with physical systems and processes to protect coasts. (9)
	c. Sustainable management is designed to cope with future threats (increased storm events, rising sea levels) but its implementation can lead to local conflict.
4.3 Coastlines are now increasingly managed by holistic integrated coastal zone management (ICZM).	a. Coastal management increasingly uses the concept of cells to manage extended areas in a sustainable and holistic way.
	b. Policy decisions (No Active Intervention, Strategic Realignment and Hold The Line, Advance The Line) are based on complex judgements (engineering feasibility, environmental sensitivity, land value, political and social reasons). (7); Cost Benefit Analysis (CBA) and Environmental Impact Assessment (EIA) are used as part of the decision making process.
	c. Policy decisions can lead to conflicts between different players (homeowners, local authorities, environmental pressure groups) with perceived winners and losers in developed, emerging and developed countries.

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Guidance for integrating geographical skills for Topic 2 Option 2.2

The following skills provide suggested opportunities for integrating the full range of skills outlined in the geographical skills appendix (Appendix 1). These skills are **not** exclusive to the topic areas under which they appear; students will need to be able to apply these skills across any suitable topic area throughout their course of study.

(1) GIS mapping of the variety of coastal landscapes both for and beyond the UK.
(2) Satellite interpretation of a variety of coastlines.
(3) Field sketches of contrasting coastal landscapes.
(4) Using measures of central tendency to classify waves into destructive and constructive wave types.
(5) Using Student T test to investigate changes in pebble size and shape along a drift aligned beach.
(6) Map interpretation of distinctive landforms indicating past of sea level change.
(7) Use of GIS and aerial photo interpretation to measure rates of coastal retreat; calculation of mean annual recession rates using historical data sets
(8) Interrogation of GIS of management cells to ascertain land use values.
(9) Photo interpretation of a range of approaches to management.

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Area of study 2: Dynamic Places

Topic 3: Globalisation

Overview

Globalisation and global interdependence continue to accelerate, resulting in changing opportunities for businesses and people. Inequalities are caused within and between countries as shifts in patterns of wealth occur. Cultural impacts on the identity of communities increase as flows of ideas, people and goods take place. Recognising that both tensions in communities and pressures on environments are likely, will help players implement sustainable solutions.

Content

Enquiry question 1: What are the causes of globalisation and why has it accelerated in recent decades?	
Key idea	**Detailed content**
1.1 Globalisation is a long-standing process which has accelerated because of rapid developments in transport, communications and businesses.	a. Globalisation involves widening and deepening global connections, interdependence and flows (commodities, capital, information, migrants and tourists). (1)
	b. Developments in transport and trade in the 19th century (railways, telegraph, steam-ships) accelerated in the 20th century (jet aircraft, containerisation), contributing to a 'shrinking world'.
	c. The 21st century has been dominated by rapid development in ICT and mobile communication (mobile phones, internet, social networking, electronic banking, fibre optics) lowering communication costs and contributing to time-space compression.

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Enquiry question 1: What are the causes of globalisation and why has it accelerated in recent decades?	
Key idea	**Detailed content**
1.2 Political and economic decision making are important factors in the acceleration of globalisation.	a. International political and economic organisations (***P: role of World Trade Organization (WTO), International Monetary Fund (IMF), World Bank***) have contributed to globalisation through the promotion of free trade policies and foreign direct investment (FDI).
	b. National governments are key players in terms of promoting free trade blocs (***P: role of European Union (EU), The Association of Southeast Asian Nations (ASEAN***) and through polices (free-market liberalisation, privatisation, encouraging business start-ups). (***P: role of governments in economic liberalisation***)
	c. Special economic zones, government subsidies and attitudes to FDI (🌍 China's 1978 Open Door Policy) have contributed to the spread of globalisation into new global regions. (***P: role of governments in attracting foreign direct investment (FDI***))
1.3 Globalisation has affected some places and organisations more than others.	a. Degree of globalisation varies by country and can be measured using indicators and indices (AT Kearney index, KOF index). (2)
	b. TNCs are important in globalisation (***P: role of TNCs***) both contributing to its spread (global production networks, glocalisation and the development of new markets) and taking advantage of economic liberalisation (outsourcing and offshoring).
	c. There are physical, political and economic reasons why some locations remain largely 'switched off' from globalisation (🌍 North Korea, Sahel countries). (3)

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Enquiry question 2: What are the impacts of globalisation for countries, different groups of people and cultures?	
Key idea	**Detailed content**
2.1 The global shift has created winners and losers in a globalising world.	a. The movement of the global economic centre of gravity to Asia via the global shift of manufacturing (🌍 China) and outsourcing of services (🌍 India) has led to benefits in that region (poverty reduction, waged work, infrastructure investment, education and training) but also costs (worker exploitation, environmental problems).
	b. Some communities within developing economies remain largely 'switched off' from globalisation and have limited connections to the globalised economy, which risks perpetuating both global and national inequality.
	c. Some deindustrialised regions in developed countries face social and environmental problems as a result of economic restructuring (dereliction, depopulation, crime and high unemployment). (4)
2.2 Economic migration has increased as the world has become more interconnected.	a. Rural-urban migration (push and pull factors), and/or natural increase, is responsible for the growth of megacities (🌍 Mumbai, Karachi); rapid urban growth creates social and environmental challenges. (5)
	b. International migration has increased in global hub cities and regions, deepening interdependence between regions (elite migration 🌍 Russian oligarchs to London and mass low-wage economic migration (🌍 India to UAE, Philippines to Saudi Arabia)).
	c. Migration has economic, social and political costs and benefits for both host and source locations.
2.3 The emergence of a global culture, based on western ideas and consumption, is one outcome of globalisation.	a. Cultural diffusion occurs as a result of globalisation; TNCs, global media corporations ***(P: role of TNCs)***, tourism and migration create and spread an increasingly 'westernised' global culture (🌍 Changing diets in Asia). (6)
	b. In some locations, cultural erosion has occurred (loss of language, traditional food, music, clothes, social relations (🌍 Papua New Guinea). The spread of a global culture has also led to new awareness of opportunities for disadvantaged groups (people with disabilities 🌍 Paralympics, minorities, socially excluded, role of women), particularly in emerging and developing countries. ***(P: opportunities for these groups)***
	c. Concern about cultural impacts, outsourcing and economic exploitation has led to opposition to globalisation from some groups. (***A: attitudes of pro- and anti- globalisation groups***)

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Enquiry question 3: What are the consequences of globalisation for global development and how should different players respond to its challenges?	
Key idea	**Detailed content**
3.1 Globalisation has led to dramatic increases in development, but also widening inequality.	a. Economic measures (both single and indices) of development (income per capita, economic sector balance) contrast with those focused on social development (Human Development Index (HDI), Gender Inequality Index (GII)).
	b. Trends in economic and social development between global regions since 1970 indicate differential progress which can be related to the outcomes from globalisation. (7)
	c. Trends in widening income inequality globally and nationally (measured using the Gini coefficient) and within communities, suggest globalisation has created winners and losers between and within developed, emerging and developing economies. (8)
3.2 Social and political tensions have resulted from the rapidity of global change caused by globalisation.	a. Open borders, deregulation and encouragement of foreign direct investment has created culturally mixed societies and thriving migrant diasporas in some locations, but tensions have resulted elsewhere (🌍 rise of extremism in Europe).
	b. Attempts have been made in some locations to control the spread of globalisation by censorship (🌍 China, North Korea), limiting immigration (🌍 UK, Japan) and trade protectionism. (***P: role of government***) (***A: attitudes of pro- and anti-immigration groups***)
	c. Some groups seek to retain their cultural identity within countries and seek to retain control of culture and resources (🌍 First Nations in Canada), whereas others embrace its economic advantages.
3.3 Ethical and environmental concerns about sustainability have led to increased localism and awareness of the impacts of consumption.	a. Local groups and NGOs promote local sourcing as one response to globalisation by increasing sustainability ***(A: actions of local pressure groups)***; this has costs and benefits for producers and consumers.
	b. Fair trade and ethical consumption schemes may reduce the inequalities of global trade and working conditions for some people. ***(A: actions of NGOs and pressure groups)***
	c. Recycling has a role in managing resource consumption and ecological footprints but its use varies by product and place (🌍 local authorities in the UK, local NGOs such as Keep Britain Tidy). ***(F: environmental consequences of different patterns of resource consumption)***

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Guidance for integrating geographical skills for Topic 3

The following skills provide suggested opportunities for integrating the full range of skills outlined in the geographical skills appendix (Appendix 1). These skills are **not** exclusive to the topic areas under which they appear; students will need to be able to apply these skills across any suitable topic area throughout their course of study.

(1) Use of proportional flow lines showing networks of flows.
(2) Ranking and scaling data to create indices.
(3) Analysis of human and physical features on maps to understand lack of connectedness.
(4) Use of population, deprivation and land-use datasets to quantify the impacts of deindustrialisation.
(5) Use of proportional flow arrows to show global movement migrants from source to host areas.
(6) Analysis of global TNC and brand value datasets to quantify the influence of western brands.
(7) Critical use of World Bank and United Nations (UN) data sets to analyse trends in human and economic development, including the use of line graphs, bar charts and trend lines.
(8) Plotting Lorenz curves and calculating the Gini coefficient.

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Topic 4: Shaping Places
Option 4.1: Regenerating Places

Overview

Local places vary economically and socially with change driven by local, national and global processes. These processes include movements of people, capital, information and resources, making some places economically dynamic while other places appear to be marginalised. This creates and exacerbates considerable economic and social inequalities both between and within local areas. Urban and rural regeneration programmes involving a range of players involve both place making (regeneration) and place marketing (rebranding). Regeneration programmes impact variably on people both in terms of their lived experience of change and their perception and attachment to places. The relative success of regeneration and rebranding for individuals and groups depends on the extent to which lived experience, perceptions, and attachments to places are changed.

Content

Enquiry question 1: How and why do places vary?	
Key idea	**Detailed content**
1.1 Economies can be classified in different ways and vary from place to place.	a. Economies can be classified by sector (primary, secondary, tertiary and quaternary) and also by type of employment (part-time/full-time, temporary/permanent, employed/self-employed. (1)
	b. Economic activity varies within countries (employment data and output data) which is reflected in variations in social factors (health, life expectancy and levels of education). (2)
	c. There are inequalities in pay levels across economic sectors and in different types of employment which are reflected in differences in GDP per capita within countries.
1.2 Urban and rural places in the UK and other developed countries have changed their functions.	a. Urban and rural places in developed countries have many functions (administrative, commercial, retail and industrial) which are apparent in different patterns of urban and rural land-use; these patterns adapt to different needs and influences. (3)
	b. Urban and rural places in the UK have changed in their demographic characteristics (gentrification, age structure and ethnic composition) and functions according to physical factors, accessibility and connectedness, historical development and the role of planning.
	c. Urban and rural change can be measured using employment trends, demographic changes, land use changes and levels of deprivation (income deprivation, employment deprivation, health deprivation, crime, quality of the living environment, abandoned and derelict land). (4)

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Enquiry question 1: How and why do places vary?	
Key idea	**Detailed content**
1.3 Globalisation and government policies have led to restructuring of the UK economy.	a. Globalisation has led to significant changes for both urban and rural places with deindustrialisation leading to decline in employment in some areas whilst others have experienced growth (🌍 London and the south-east).
	b. In the past 40 years, governments have taken a positive view of the impact of globalisation, promoting free trade, foreign direct investment, deregulation of capital markets and privatisation.
	c. These economic policies have led to perceived winners and losers both at a regional scale and within urban and rural areas.

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Enquiry question 2: Why is regeneration needed?	
Key idea	**Detailed content**
2.1 Economic and social inequalities lead to social consequences.	a. Regions perceived as successful (🌍 London and its surrounding region, San Francisco Bay area) have high rates of employment, inward migration (internal and international) and low levels of multiple deprivation but also high property prices and skill shortages in both urban and rural areas.
	b. In some regions (🌍 The Rust Belt, USA) economic restructuring (deindustrialisation) has had a range of negative impacts on people including increasing levels of social deprivation (education, health, crime, access to services and living environment) in both urban areas and in rural settlements once dominated by primary industry.
	c. Within all regions there are significant variations in both economic and social inequalities with the increased segregation of urban residential communities (gated communities, 'sink estates'); contrast between commuter villages and more remote rural settlements with low service provision.
2.2 There are significant variations in the lived experience of place and engagement with them.	a. There are wide variations in levels of engagement in local communities (local and national election turnout, development and support for local community groups). (5)
	b. Lived experience of, and attachment to, places varies according to age, ethnicity, gender, length of residence (new migrants, students) and levels of deprivation; these in turn impact on levels of engagement. (6)
	c. Urban protests and civil unrest can occur in deprived areas and those in need of regeneration; these have complex causes (lack of political engagement and representation, ethnic tensions, inequality and lack of economic opportunity). (🌍 Riots in UK cities in the early 1980's and in London in 2011). (7)
2.3 Local areas will have some areas that are more in need of regeneration than others.	a. A local study of an urban place in the UK to investigate the changing structure of its economy, its environment, and its social and demographic characteristics (ethnic variation, changing quality and quantity of services, health and education deprivation) to identify areas that are in need of regeneration.
	b. A local study of a rural place in the UK to investigate the changing structure of its economy, its environment and its social and demographic characteristics (ethnic variation, changing quality and quantity of services, health and education deprivation) to identify areas that are in need of regeneration.

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Enquiry question 3: How is regeneration managed?	
Key idea	**Detailed content**
3.1 National governments play a key role in regeneration.	a. The UK government manages its economic, social and physical environments through political decisions concerning infrastructure investment (High Speed Rail, airport development) in an attempt to maintain economic growth and address issues of accessibility.
	b. The UK government can make significant decisions that affect the rate and type of development (planning laws, house building targets, housing affordability, permission for 'fracking') which, in turn, affect the economic regeneration of both urban and rural regions.
	c. UK government decisions about international migration and the deregulation of capital markets have significant impacts on the potential for growth and both direct and indirect investment.
3.2 Local government policies aim to represent areas as being attractive for inward investment.	a. Local governments compete to create sympathetic business environments with local plans designating areas for development for a range of domestic and foreign investors (Science Parks).
	b. Local interest groups (Chambers of Commerce, local preservation societies, trade unions) play a key role in decision-making about regeneration; there are often tensions between groups that wish to preserve urban environments and those that seek change.
	c. Urban and rural regeneration strategies include retail-led plans, tourism, leisure and sport (🌍 London Olympics 2012), public/private rural diversification (🌍 Powys Regeneration Partnership).
3.3 Rebranding attempts to represent areas as being more attractive by changing public perception of them.	a. Rebranding involves re-imaging places using a variety of media to improve the image of both urban and rural locations and make them more attractive for potential investors.
	b. For UK deindustrialised cities, rebranding can stress the attraction of places, creating specific place identity building on their industrial heritage; this can attract national and international tourists and visitors (🌍 Glasgow 'Scotland with Style').
	c. There are a range of rural rebranding strategies in the post-production countryside based on heritage and literary associations, farm diversification and specialised products, outdoor pursuits and adventure in both accessible and remote areas; these strategies are intended to make these places more attractive to national and international tourists and visitors (🌍 'Bronte' country, Kielder Forest).

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Enquiry question 4: How successful is regeneration?	
Key idea	**Detailed content**
4.1 The success of regeneration uses a range of measures: economic, demographic, social and environmental.	a. Successful economic regeneration can be assessed using measures of income, poverty and employment (both relative and absolute changes) both within areas and by comparison to other more successful areas. (8)
	b. Social progress can be measured by reductions in inequalities both between areas and within them; social progress can also be measured by improvements in social measures of deprivation and in demographic changes (improvements in life expectancy and reductions in health deprivation) (9)
	c. Regeneration is successful if it leads to an improvement in the living environment (levels of pollution reduced, reduction in abandoned and derelict land). (10)
4.2 Different urban stakeholders have different criteria for judging the success of urban regeneration.	a. A study of the strategies used in the regeneration of a local urban place and the contested nature of these decisions within local communities.
	b. The changes that have taken place as a consequence of national and local strategies can be measured using a range of economic, social, demographic and environmental variables in the local urban area.
	c. Different stakeholders (community groups, NGOs, political parties/local councillors, business groups, regional/national groupings) will assess success using contrasting criteria; their views will depend on the meaning and lived experiences of the urban place and the impact of change on both the reality and the image of that place.
4.3 Different rural stakeholders have different criteria for judging the success of rural regeneration.	a. A study of the strategies used in the restructuring of a local rural place and the contested nature of these decisions within local communities.
	b. The changes that have taken place as a consequence of national and local strategies can be measured using a range of economic, social, demographic and environmental variables in the local rural area.
	c. Different stakeholders (community groups, NGOs, political parties/local councillors, business groups, regional/national groupings) will assess success using contrasting criteria; their views will depend on the meaning and lived experiences of the rural place and the impact of change on both the reality and the image of that place.

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Guidance for integrating geographical skills for Topic 4 Option 4.1

The following skills provide suggested opportunities for integrating the full range of skills outlined in the geographical skills appendix (Appendix 1). These skills are **not** exclusive to the topic areas under which they appear; students will need to be able to apply these skills across any suitable topic area throughout their course of study.

(1) Description of graphs showing changes in employment.
(2) Analysis of choropleth maps showing variations within and between countries.
(3) Analysis of location quotients to show differences in functions from place to place.
(4) Ranking and weighting of indices to create multiple index data.
(5) Analysis of electoral results and maps to show variations in levels of political engagement.
(6) Use of Index of Multiple Deprivation (IMD) database to understand variations in levels and types of deprivation.
(7) The interpretation of oral accounts of the values and lived experiences of places from different interest groups and ethnic communities.
(8) Use of scatter graphs to show the nature of relationships between data sets.
(9) Testing of the strength of relationships through the use of Spearman's Rank Order correlation.
(10) The interpretation of photographic and map evidence showing 'before and after' cross-sections of regenerated urban and rural places.

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Topic 4: Shaping Places
Option 4.2: Diverse Places

Overview

Local places vary both demographically and culturally with change driven by local, national and global processes. These processes include movements of people, capital, information and resources, making some places more demographically and culturally heterogeneous whilst other places appear to be less dynamic. This creates and exacerbates considerable social inequalities both between and within local areas.

Variations in past and present connections with places lead to very different lived experiences of places at a local level. This is because demographic and cultural changes impact variably on people in terms of the lived experience of change and their perception of and attachment to places. The relative success of the management of demographic and cultural changes for individuals and groups depends on that lived experience of change and how perceptions of and attachments to the place are changed.

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Content

Enquiry question 1: How do population structures vary?	
Key idea	**Detailed content**
1.1 Populations vary from place to place and over time.	a. The population of the UK has grown unevenly in the last 50 years, with some regions growing very rapidly (🌍 London and the south-east) whilst others have grown more slowly (🌍 the north-east of England). (1)
	b. Population distribution, density and structure (age, gender and ethnicity) vary across the rural-urban continuum in the UK from very sparse rural areas to densely populated inner-city suburbs. (2)
	c. Population changes are a result of differences in fertility and mortality rates as well as international and internal migration.
1.2 Urban places in the UK are varied and some are changing rapidly.	a. There is variation within urban places in population density and functions according to their accessibility, physical factors, historical development and the role of planning (🌍 Contrasts between Canary Wharf and Bermondsey). (3)
	b. Urban places in the UK tend to have younger and more ethnically diverse populations with especially large proportions in the 20–39 year old category.
	c. Urban places tend to have higher fertility rates and lower mortality rates but in most areas, changes in population size and structure are a result of international and internal migration.
1.3 Rural places in the UK are varied and some are changing rapidly.	a. Rural places vary in population density and function according to their accessibility, physical factors, historical development and the role of planning (🌍 Commuter villages close to London contrasted with villages in central Wales).
	b. Rural places in the UK tend to have older populations: a high number of 40–69 year olds and relatively low numbers of 20–39 year olds.
	c. Rural places tend to have lower fertility rates and higher mortality rates but most population change is a result of international and internal migration.

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Enquiry question 2: Are there distinctive cultural and demographic differences between places?	
Key idea	**Detailed content**
2.1 Globalisation has caused major changes to the culture and society of the UK.	a. Globalisation has had an impact on the culture and society of the UK through the international and internal movement of people, changing patterns of land ownership and the impact of TNCs in the media and in retailing.
	b. International and internal migration brings both economic challenges and opportunities to the UK; it increases ethnic diversity and cultural heterogeneity but that impact is uneven as some regions have experienced rapid, significant change (🌍 London and the south-east) while other regions have changed less (🌍 north-east England). (4)
	c. Significant migration flows include in-migration from former colonies (🌍 Indian sub-continent and the West Indies), from the European Union as well as significant internal movements towards London and the south-east. (5)
2.2 Cultural, economic and social variation are closely related geographically and are subject to change.	a. International migrants tend to live in distinctive areas in both urban and rural places (🌍 Russian oligarch families in London, east Europeans in North Lincolnshire) with ethnic segregation closely related to economic indicators (income and employment) and social indicators (health, crime and education). (6)
	b. These living spaces have characteristics that reflect their ethnicity in terms of distinctive retail outlets, places of worship and leisure which can provoke hostility from other groups who perceive migrants as a threat to their culture; migrants may experience a sense of social exclusion.
	c. Experiences and perceptions of living spaces have changed as communities have evolved economically and culturally with generational contrasts in lived experiences (🌍).
2.3 Local areas have contrasting demographic and cultural characteristics.	a. A local study of an urban place in the UK to investigate the variety of its demographic and cultural characteristics (ethnic variation, land-use, income, health, levels of crime, and education deprivation) to identify distinctive areas.
	b. A local study of a rural area in the UK to investigate the variety of its demographic and cultural characteristics (ethnic variation, land-use, income, health, levels of crime, and education deprivation) to identify distinctive areas.

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Enquiry question 3: How do people view their living spaces?	
Key idea	**Detailed content**
3.1 Urban places are seen differently by different groups because of their lived experience of places and their perception of those places.	a. During industrialisation, urban places were perceived by some as dangerous and threatening (🌍 Victorian London); currently they could be seen as attractive because of their range of economic opportunities and the variety of social and leisure activities which attract young people and migrants.
	b. Some urban locations are perceived as undesirable or even threatening by residents and/or outsiders due to high crime rates, low environmental quality, population characteristics and reputation based on quantitative data but also due to lived experience and media representation. (7)
	c. Suburban and inner city areas are perceived differently in terms of their desirability as places to live and work by contrasting demographic groups (by age, ethnicity, life cycle stage).
3.2 Rural places are seen differently by different groups because of their lived experience of places and their perception of those places.	a. Rural places are often perceived as idyllic because of their tranquillity, natural landscapes and historical and cultural associations (🌍 Hardy's 'Wessex').
	b. Some rural locations are perceived as undesirable by residents and/or outsiders due to remoteness, limited social opportunities, limited range of services, high transport costs, population characteristics and reputation based on quantitative data but also due to lived experience and media representation. (8)
	c. There is a range of rural areas that are viewed in different ways: from very remote areas to retirement villages and commuter villages.
3.3 Different groups compete to protect their living spaces.	a. Local and national governments, TNCs and local community groups compete for space and may make changes to urban and rural land-uses that impact on their populations and the lived experience of place.
	b. There are frequent tensions over the management of living spaces especially between long term residents who seek continuity and recent in-migrants who may seek change.
	c. Changes to the built environment through urban regeneration will bring benefits to some groups but costs and exclusion for others. (9)

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Enquiry question 4: How successfully are cultural and demographic issues managed?	
Key idea	**Detailed content**
4.1 The management of cultural and demographic issues can be measured using a range of techniques.	a. Management can be assessed using measures of income and employment (both relative and absolute changes) both within areas and by comparison to other areas.
	b. Social progress can be measured by reductions in inequalities both between areas and within them as well as improvements in social measures of deprivation and demographic changes (improvements in life expectancy). (10)
	c. Assimilation of different cultures can be measured by levels of political engagement through voter turnout, the development of local community groups and reductions in 'hate' crime and racism. (11)
4.2 Different urban stakeholders have different criteria for assessing the success of managing change in diverse urban communities.	a. A study of the contrasting ways in which different demographic and ethnic groups view their urban living space and the impact of national and local government strategies on their local area.
	b. A study of perceptions of the role of external stakeholders (local and national governments, TNCs and local businesses) in managing a changing urban area.
	c. Different stakeholders will assess success using contrasting criteria depending on the meaning of the place and the impact of change on both the reality and their image of that place (🌍 Oxford and London, average house prices and average earnings).
4.3 Different rural stakeholders have different criteria for assessing the success of managing change in diverse rural communities.	a. A study of the contrasting ways in which different demographic and ethnic groups view their rural living space and the impact of national and local government strategies on their local area.
	b. A study of perceptions of the role of external stakeholders (local and national governments, TNCs and local businesses) in managing a changing rural area.
	c. Different stakeholders will assess success using contrasting criteria depending on the meaning of the place and the impact of change on both the reality and their image of that place.

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Guidance for integrating geographical skills for Topic 4 Option 4.2

The following skills provide suggested opportunities for integrating the full range of skills outlined in the geographical skills appendix (Appendix 1). These skills are **not** exclusive to the topic areas under which they appear; students will need to be able to apply these skills across any suitable topic area throughout their course of study.

(1) Analysis of choropleth maps showing demographic variations within and between places.
(2) Description of graphs showing changes in population structure.
(3) Analysis of location quotients to show differences in functions from place to place.
(4) Use of indexes to measure ethnic and cultural diversity.
(5) Use of flow lines to demonstrate direction and level of migration.
(6) Use of the IMD database to understand differences in types and levels of deprivation.
(7) Analysis of crime data and maps to show variations in levels of crime across communities.
(8) The interpretation of oral accounts of the values and lived experiences of places from different interest groups and ethnic communities.
(9) The interpretation of photographic and map evidence showing 'before and after' cross-sections of urban and rural places.
(10) Use of scatter graphs to show the nature of relationships between data sets.
(11) Testing of the strength of relationships through the use of Spearman's Rank Order correlation.

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Area of study 3: Physical Systems and Sustainability

Topic 5: The Water Cycle and Water Insecurity

Overview

Water plays a key role in supporting life on earth. The water cycle operates at a variety of spatial scales and also at short- and long-term timescales, from global to local. Physical processes control the circulation of water between the stores on land, in the oceans, in the cryosphere, and the atmosphere. Changes to the most important stores of water are a result of both physical and human processes.

Water insecurity is becoming a global issue with serious consequences and there is a range of different approaches to managing water supply.

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Content

Enquiry question 1: What are the processes operating within the hydrological cycle from global to local scale?	
Key idea	**Detailed content**
1.1 The global hydrological cycle is of enormous importance to life on earth	a. The global hydrological cycle's operation as a closed system (inputs, outputs, stores and flows) driven by solar energy and gravitational potential energy. (1)
	b. The relative importance and size (percentage contribution) of the water stores (oceans, atmosphere, biosphere, cryosphere, groundwater and surface water) and annual fluxes between atmosphere, ocean and land.
	c. The global water budget limits water available for human use and water stores have different residence times; some stores are non-renewable (fossil water or cryosphere losses).
1.2 The drainage basin is an open system within the global hydrological cycle.	a. The hydrological cycle is a system of linked processes: inputs (precipitation patterns and types: orographic, frontal, convectional) flows (interception, infiltration, direct runoff, saturated overland flow, throughflow, percolation, groundwater flow) and outputs (evaporation, transpiration and channel flow).
	b. Physical factors within drainage basins determine the relative importance of inputs, flows and outputs (climate, soils, vegetation, geology, relief).
	c. Humans disrupt the drainage basin cycle by accelerating processes (deforestation; changing land use) and creating new water storage reservoirs or by abstracting water.
1.3 The hydrological cycle influences water budgets and river systems at a local scale.	a. Water budgets show the annual balance between inputs (precipitation) and outputs (evapotranspiration) and their impact on soil water availability and are influenced by climate type (tropical, temperate, polar). (2)
	b. River regimes indicate the annual variation of discharge of a river and result from the impact of climate, geology and soils as shown in regimes from contrasting river basins. (3)
	c. Storm hydrographs shape depends on physical features of drainage basins (size, shape, drainage density, rock type, soil, relief and vegetation) as well as human factors (land use and urbanisation). (***P: the role of planners in managing land use***) (4)

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Enquiry question 2: What factors influence the hydrological system over short- and long-term timescales?	
Key idea	**Detailed content**
2.1 Deficits within the hydrological cycle result from physical processes but can have significant impacts.	a. The causes of drought, both meteorological (short-term precipitation deficit, longer trends, El Nino events) and hydrological. (5) (6)
	b. The contribution human activity makes to the risk of drought: over-abstraction of surface water resources and ground water aquifers.
	c. The impacts of drought on ecosystem functioning (wetlands, forest stress) and the resilience of these ecosystems.
2.2 Surpluses within the hydrological cycle can lead to flooding, with significant impacts for people.	a. Meteorological causes of flooding including intense storms leading to flash flooding, unusually heavy or prolonged rainfall, extreme monsoonal rainfall and snowmelt. (5) (6)
	b. Human actions that can exacerbate flood risk (changing land use within the river catchment, mismanagement of rivers using hard engineering systems.)
	c. Damage from flooding has both environmental impacts (soils and ecosystems) and socio-economic impacts (economic activity, infrastructure and settlement).
2.3 Climate change may have significant impacts on the hydrological cycle globally and locally.	a. Climate change affects inputs and outputs within the hydrological cycle: trends in precipitation and evaporation.
	b. Climate change affects stores and flows, size of snow and glacier mass, reservoirs, lakes, amount of permafrost, soil moisture levels as well as rates of runoff and stream flow.
	c. Climate change resulting from El Nino, La Nina, short-term oscillations and global warming increase the uncertainty in the system; this causes concerns over the security of water supplies. (***F: projections of future drought and flood risk***)

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Enquiry question 3: How does water insecurity occur and why is it becoming such a global issue for the 21st century?	
Key idea	**Detailed content**
3.1 There are physical causes and human causes of water insecurity.	a. The growing mismatch between water supply and demand has led to a global pattern of water stress (below 1,700m³ per person) and water scarcity (below 1000m³ per person). (7)
	b. The causes of water insecurity are physical (climate variability, salt water encroachment at coast) as well as human (over abstraction from rivers, lakes and groundwater aquifers, water contamination from agriculture, industrial water pollution).
	c. The finite water resource faces pressure from rising demand (increasing population, improving living standards, industrialisation and agriculture) which is increasingly serious in some locations and is leading to increasing risk of water insecurity. (***F: projections of future water scarcity***)
3.2 There are consequences and risks associated with water insecurity.	a. The causes of and global pattern of physical water scarcity and economic scarcity and why the price of water varies globally. (8)
	b. The importance of water supply for economic development (industry, energy supply, agriculture) and human wellbeing (sanitation, health and food preparation); the environmental and economic problems resulting from inadequate water.
	c. The potential for conflicts to occur between users within a country, and internationally over local and trans-boundary water sources. (***P: role of different players***) (9)
3.3 There are different approaches to managing water supply, some more sustainable than others.	a. The pros and cons of the techno-fix of hard engineering schemes to include water transfers, mega dams and desalination plants.
	b. The value of more sustainable schemes of restoration of water supplies and water conservation (smart irrigation, recycling of water). (***A: contrasting attitudes to water supply***)
	c. Integrated drainage basin management for large rivers (🌍 Nile, Colorado) and water sharing treaties and frameworks (United Nations Economic Commission for Europe (UNECE) Water Convention, Helsinki and the Water Framework Directive and Hydropower, Berlin). (***P: role of players in reducing water conflict risk***)

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Guidance for integrating geographical skills for Topic 5

The following skills provide suggested opportunities for integrating the full range of skills outlined in the geographical skills appendix (Appendix 1). These skills are **not** exclusive to the topic areas under which they appear; students will need to be able to apply these skills across any suitable topic area throughout their course of study.

(1) Use of diagrams showing proportional flows within systems.
(2) Comparative analysis of river regime annual discharges.
(3) Analysis and construction of Water Budget graphs.
(4) Using comparative data, labelling of features of storm hydrographs.
(5) Use of large database to study the pattern and trends in floods and droughts worldwide.
(6) Interpretation of synoptic charts and weather patterns leading to droughts and floods.
(7) Use of a global map to analyse world water stress and scarcity.
(8) Interpretation of water poverty indexes using diamond diagrams for countries at different levels of development.
(9) Identify seasonal variations in the regime of international rivers, such as the Nile and the Mekong and assess impact of existing and potential dams.

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Topic 6: The Carbon Cycle and Energy Security

Overview

A balanced carbon cycle is important in maintaining planetary health. The carbon cycle operates at a range of spatial scales and timescales, from seconds to millions of years. Physical processes control the movement of carbon between stores on land, the oceans and the atmosphere. Changes to the most important stores of carbon and carbon fluxes are a result of physical and human processes. Reliance on fossil fuels has caused significant changes to carbon stores and contributed to climate change resulting from anthropogenic carbon emissions.

Content

Enquiry question 1: How does the carbon cycle operate to maintain planetary health?	
Key idea	**Detailed content**
1.1 Most global carbon is locked in terrestrial stores as part of the long-term geological cycle.	a. The biogeochemical carbon cycle consists of carbon stores of different sizes (terrestrial, oceans and atmosphere), with annual fluxes between stores of varying size (measured in Pg/Gt), rates and on different timescales. (1)
	b. Most of the earth's carbon is geological, resulting from the formation of sedimentary carbonate rocks (limestone) in the oceans and biologically derived carbon in shale, coal and other rocks.
	c. Geological processes release carbon into the atmosphere through volcanic out-gassing at ocean ridges/subduction zones and chemical weathering of rocks.
1.2 Biological processes sequester carbon on land and in the oceans on shorter timescales.	a. Phytoplankton sequester atmospheric carbon during photosynthesis in surface ocean waters; carbonate shells/tests move into the deep ocean water through the carbonate pump and action of the thermohaline circulation.
	b. Terrestrial primary producers sequester carbon during photosynthesis; some of this carbon is returned to the atmosphere during respiration by consumer organisms.
	c. Biological carbon can be stored as dead organic matter in soils, or returned to the atmosphere via biological decomposition over several years.
1.3 A balanced carbon cycle is important in maintaining balance in other earth systems.	a. The concentration of atmospheric carbon (carbon dioxide and methane) strongly influences the natural greenhouse effect, which in turn determines the distribution of temperature and precipitation. (2)
	b. Ocean and terrestrial photosynthesis play an important role in regulating the composition of the atmosphere.
	c. Soil health is influenced by stored carbon, which is important for ecosystem productivity and ultimately for food production for humans.

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Enquiry question 2: How has demand for energy caused significant changes to the carbon stores and fluxes?	
Key idea	**Detailed content**
2.1 Energy security is a key goal for countries, with most relying on fossil fuels.	a. Consumption (per capita and in terms of units of GDP) and energy mix (domestic and foreign, primary and secondary energy, renewable versus non-renewable). (3)
	b. Access to and consumption of energy resources depends on physical availability, cost, technology, public perception, level of economic development and environmental priorities.
	c. Energy players (***P: role of TNCs, The Organisation of the Petroleum Exporting Countries (OPEC), consumers, governments***) have different roles in securing pathways and energy supplies.
2.2 Reliance on fossil fuels to drive economic development is still the global norm.	a. There is a mismatch between locations of conventional fossil fuel supply (oil, gas, coal) and regions were demand is highest, resulting from physical geography.
	b. Energy pathways (pipelines, transmission lines, shipping routes, road and rail) are a key aspect of security but can be prone to disruption especially as conventional fossil fuel sources deplete. (4)
	c. The development of unconventional fossil fuel energy resources (tar sands, oil shale, shale gas, deep water oil) has social costs and benefits, implications for the carbon cycle, and consequences for the resilience of fragile environments. (***P: role of business in developing reserves, versus environmental groups and affected communities***)
2.3 There are alternatives to fossil fuels but each has costs and benefits.	a. Renewable and recyclable energy (nuclear power, wind power and solar power) could help decouple fossil fuel from economic growth; these energy sources have costs and benefits economically, socially, and environmentally and in terms of their contribution they can make to energy security.
	b. Biofuels are an alternative energy source which are increasing globally; growth in biofuels however has implications for food supply as well as uncertainty over how 'carbon neutral' they are. (5)
	c. Radical technologies, including carbon capture and storage and alternative energy sources (hydrogen fuel cells, electric vehicles) could reduce carbon emissions but uncertainty exists as to how far this is possible.

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Enquiry question 3: How are the carbon and water cycles linked to the global climate system?	
Key idea	**Detailed content**
3.1 Land use change, linked to development, puts biological carbon cycling processes at risk.	a. Growing demand for food, fuel and other resources globally has led to contrasting regional trends in land use cover (deforestation, afforestation, conversion of grasslands to farming). (6)
	b. Deforestation affects the terrestrial carbon cycle, and has wider implications for the water cycle and soil health.
	c. There is evidence that forests and other ecosystems are being valued and protected more, especially in countries at higher levels of development (environmental Kuznets's curve model). (***A: attitudes of global consumers to environmental issues***)
3.2 The oceans play a key role in human wellbeing in some locations but this is threatened by pollution and ocean acidification.	a. Ocean acidification, as a result of its role as a carbon sink, risks crossing the critical threshold for the health of coral reefs and other marine ecosystems which provide vital ecosystem services.
	b. Ocean health is also threatened by terrestrial land-use change (deforestation, farming, and urbanisation) in terms of pollution and siltation especially in coastal areas. (7)
	c. Threats to ocean health in turn pose threats to human wellbeing, especially in developing regions that depend on ocean resources as a food source and for tourism and coastal protection.
3.3 Climate change, resulting from anthropogenic carbon fluxes, risks significant change to the water cycle.	a. Climate change, resulting from the enhanced greenhouse effect, may increase the frequency of drought due to shifting climate belts, with risks to human wellbeing and the health of forests as carbon sinks.
	b. Increased temperatures affect evaporation rates and the quantity of water vapour in the atmosphere with implications for precipitation patterns and the greenhouse effect. (***F: uncertainty of global projections***)
	c. Changes to river regimes are likely in high latitude and high altitude regions with implications for water availability, water quality and flooding.

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Guidance for integrating geographical skills for Topic 6

The following skills provide suggested opportunities for integrating the full range of skills outlined in the geographical skills appendix (Appendix 1). These skills are **not** exclusive to the topic areas under which they appear; students will need to be able to apply these skills across any suitable topic area throughout their course of study.

(1) Use of proportional flow diagrams showing carbon fluxes.
(2) Use of maps showing global temperature and precipitation distribution.
(3) Graphical analysis of the energy mix of different countries, including change over time.
(4) Analysis of maps showing global energy trade and flows.
(5) Comparisons of emissions from different energy source.
(6) Using GIS to map land use changes such as deforestation over time.
(7) Analysis of climate model maps to identify areas at most risk from water shortages, floods in the future.

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Topic 7: Climate Change Futures

Overview

Climate and climate change provide a context for developing an understanding of the links between the water and carbon cycles and the role of feedbacks within and between the two cycles. Future climate change poses a serious threat to the health of the planet and there are a range of adaptation and mitigation strategies.

Content

Enquiry question 1: Why is the functioning of the global climate system so crucial to human well-being?	
Key idea	**Detailed content**
1.1 The global climate system plays a key role in planetary health.	a. The general circulation of the atmosphere redistributes heat energy across the planet and influences the locations of high and low pressure areas, and biomes. (1)
	b. Ocean circulation also redistributes heat energy and influences climate zones and the biological productivity of the oceans. (1)
	c. Disruption to these systems could reach a critical threshold, through rising carbon emissions and global warming, risking widespread changes to climate zones and biome distribution. (2)
1.2 Further planetary warming risks large-scale release of stored carbon.	a. The consequence of fossil fuel use, land use change and economic development is rising levels of atmospheric carbon (carbon dioxide and methane) and other greenhouse gases. (3)
	b. Future emissions and atmospheric concentration levels, and climate warming, are uncertain due to natural factors (the role of carbon sinks) and human factors (economic growth, population, energy sources and mitigation actions). ***(F: uncertainty of global projections)***
	c. Feedback mechanisms in a warming world risk large-scale release of carbon from peatlands, permafrost and the oceans and so-called 'tipping points' including forest die-back and alterations to the thermohaline circulation. ***(F: uncertainty of global projections)***

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Enquiry question 1: Why is the functioning of the global climate system so crucial to human wellbeing?	
Key idea	**Detailed content**
1.3 What are the possible responses to the threat of future climate change?	a. Adaptation strategies (water conservation and management, resilient agricultural systems, land use planning, flood risk management, solar radiation management) have different costs and risks.
	b. Mitigation requires decision making at a global scale, as well as nationally implemented emissions reduction targets, but it has proved difficult to reach agreement. ***(A: attitudes of different countries, TNCs and people)***
	c. Emissions reductions could be achieved in a variety of ways (carbon taxation, renewable switching, energy efficiency, afforestation, carbon capture and storage) each of which has pros and cons. ***(A: attitudes of different countries, TNCs and people)***

Guidance for integrating geographical skills for Topic 7

The following skills provide suggested opportunities for integrating the full range of skills outlined in the geographical skills appendix (Appendix 1). These skills are **not** exclusive to the topic areas under which they appear; students will need to be able to apply these skills across any suitable topic area throughout their course of study.

(1) Global maps to illustrate projected temperature change
(2) Use of GIS linking temperature change and implications for biomes
(3) Plotting graphs of carbon dioxide levels, calculating means and rates of change.

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Area of study 4: Human Systems and Geopolitics

Topic 8: Superpowers

Overview

Superpowers can be developed by a number of characteristics. The pattern of dominance has changed over time. Superpowers and emerging superpowers have a very significant impact on the global economy, global politics and the environment. The spheres of influence between these powers are frequently contested, resulting in geopolitical implications.

Content

Enquiry question 1: What are superpowers and how have they changed over time?	
Key idea	**Detailed content**
1.1 Geopolitical power stems from a range of characteristics of superpowers.	a. Superpowers, emerging and regional powers can be defined using contrasting characteristics (economic, political, military, cultural and demographic). (1)
	b. Mechanisms of maintaining power sit on a spectrum from 'hard' to 'soft' power, which vary in their effectiveness.
	c. The relative importance of these characteristics and mechanisms for maintaining power has changed over time.
1.2 Patterns of power change over time and can be uni-, bi- or multi-polar.	a. The maintenance of power during the imperial era by direct colonial control (British Empire, multipolar world 1919–1939).
	b. Multi-faceted, indirect control (political, economic, military, cultural) including neo-colonial mechanisms has become more important (Cold War era; emergence of China as a potential rival to the USA's hegemony). (2)
	c. Different patterns of power bring varying degrees of geopolitical stability and risk.
1.3 Emerging powers vary in their influence, which can change rapidly over time.	a. A number of emerging countries, including Brazil, Russia, India and China (BRIC) and other G20 members, are considered increasingly important to global economic and political systems.
	b. Each has evolving strengths and weaknesses (economic, political, military, cultural and demographic) that might inhibit or advance their economic and geopolitical role in the future.
	c. Theory (World Systems Theory, Dependency Theory, Modernisation Theory) can be used to help explain changing patterns of power.

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Enquiry question 2: What are the impacts of superpowers on the global economy, political systems and the environment?	
Key idea	**Detailed content**
2.1 Superpowers have a significant influence over the global economic system.	a. Superpowers influence the global economy (promoting free trade and capitalism) through a variety of IGOs (World Bank, IMF, WTO, World Economic Forum (WEF)). (3)
	b. TNCs (public and state-led) are dominant economic forces in the global economy and economic and cultural globalisation in terms of technology (patents) and trade patterns. ***(P: role of TNCs in maintaining power and wealth)***
	c. Global cultural influence (the arts, food the media) and 'westernisation' is an important aspect of power, linked to economic influence and technology.
2.2 Superpowers and emerging nations play a key role in international decision making.	a. Superpowers and emerging nations play a key role in global action (crisis response, conflict) but some are more willing to act than others. ***(P: role of powerful countries as 'global police')***
	b. Alliances, both military (North Atlantic Treaty Organisation (NATO), The Australia, New Zealand and United States Security Treaty (ANZUS) and economic (EU, North American Free Trade Agreement (NAFTA), ASEAN) increase interdependence and are important in geostrategy and global influence.
	c. The UN and its organs (Security Council, International Court of Justice, and peacekeeping missions) are important to global geopolitical stability. ***(A: actions and attitudes of global IGOs)***
2.3 Global environmental concerns are disproportionately influenced by superpower actions.	a. Superpower resource demands (food, fossil fuels, and minerals) can cause environmental degradation and their carbon emissions contribute disproportionately to global warming. (4)
	b. There are differences in the willingness to act (USA, EU, China, and Russia) to reduce carbon emissions and reach global agreements on environmental issues. ***(A: attitudes and actions of different countries)***
	c. Future growth in middle class consumption in emerging superpowers has implications for the availability and cost of key resources (rare earths, oil, staple grains and water).

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Enquiry question 3: What spheres of influence are contested by superpowers and what are the implications of this?	
Key idea	**Detailed content**
3.1 Global influence is contested in a number of different economic and geographical spheres.	a. Tensions can arise over the acquisition of physical resources (Arctic oil and gas) where ownership is disputed and disagreement exists over exploitation. ***(A: attitudes and actions in relation to resources)***
	b. The global system of intellectual property rights can be undermined by counterfeiting which strains trade relations and TNC investment.
	c. Geographical spheres of influence can be contested leading to tensions (🌍 South and East China Seas) and in some cases open conflict (🌍 Western Russia/Eastern Europe) with implications for people and economies.
3.2 Developing nations have changing relationships with powerful countries.	a. Developing economic ties between emerging powers and the developing world (China and African nations) increase interdependence and bring both opportunities and challenges. ***(P: role of emerging powers)***
	b. The shift in the global economic centre of gravity towards Asia increases the importance of that region, but also creates economic and political tensions within the region. (5)
	c. Cultural, political and economic tensions in the Middle East represent an ongoing challenge to superpowers and emerging powers due to complex geopolitical relations combined with vital energy resources. ***(A: contrasting cultural ideologies)***
3.3 Existing superpowers face ongoing economic restructuring, which challenges their power.	a. Economic problems (debt, unemployment, economic restructuring, social costs) represent an ongoing challenge to the USA and EU.
	b. The economic costs of maintaining global military power (naval, nuclear, air power, intelligence services) and space exploration are questioned in some existing powers.
	c. The future balance of global power in 2030 and 2050 is uncertain and there are a range of possible outcomes (continued USA dominance, bi-polar and multi-polar structures) ***(F: uncertainty over future power structures)*** (6)

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Guidance for integrating geographical skills for Topic 8

The following skills provide suggested opportunities for integrating the full range of skills outlined in the geographical skills appendix (Appendix 1). These skills are **not** exclusive to the topic areas under which they appear; students will need to be able to apply these skills across any suitable topic area throughout their course of study.

(1) Constructing power indexes using complex data sets, including ranking and scaling.
(2) Mapping past, present and future sphere of influence and alliances using world maps.
(3) Using graphs of world trade growth using linear and logarithmic scales.
(4) Mapping emissions and resource consumption using proportional symbols.
(5) Plotting the changing location of the world's economic centre of gravity on world maps.
(6) Analysing future Gross Domestic Product (GDP) using data from different sources.

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Topic 9: Global Development and Connections
Option 9.1: Health, Human Rights and Intervention

Overview

Traditional definitions of development are based largely on economic measures but have been increasingly challenged with both human health (as measured through life expectancy) and human rights being seen as significant measures of the progress of a society. There are variations in the norms and laws of both national and global institutions that impact on decisions made at a national and international scale. These decisions lead to a wide range of geopolitical interventions via national policies, from development aid through to military campaigns.

The impact of geopolitical interventions on both human health and human rights is variable and contested, with some groups appearing to benefit disproportionately, which can lead to inequalities and injustice.

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Content

Enquiry question 1: What are the means and ends of human development?	
Key idea	**Detailed content**
1.1 Concepts of human progress are complex and contested.	a. Human progress has been measured using the growth of GDP as an end in itself but the relationship between human contentment and levels of wealth and income is complex (Happy Planet Index) and dominant models are contested (🌍 Sharia'ah law, Bolivia under Evo Morales). (1)
	b. Improvements in health, life expectancy and human rights are seen by some (Rosling) as more significant goals for development while economic growth is the best means of delivering them.
	c. Education is central to economic development (human capital) and to the understanding and assertion of human rights; this view is however not universally shared (attitudes to gender equality in education) and education levels vary greatly among countries (The United Nations Educational, Scientific and Cultural Organisation (UNESCO). (2)
1.2 There are notable variations in human health and life expectancy.	a. There are considerable variations in health and life expectancy in the developing world that are explained by differences in diet, water supply and sanitation which impact particularly on levels of infant and maternal mortality. (3)
	b. Variations in health and life expectancy in the developed world are largely a function of differences in lifestyles, levels of deprivation and the availability, cost and effectiveness of medical care. (3)
	c. There are significant variations in health and life expectancy within countries (🌍 UK, Brazil) that are related to ethnic variations (🌍 Aboriginal peoples in Australia) and income levels and inequalities which, in turn, impact on lifestyles.
1.3 Governments and International Government Organisations play a significant role in defining development targets and policies.	a. The relationship between economic and social development is complex and dependent on decisions made by governments on the importance of social progress; this ranges from welfare states with high levels of social spending to totalitarian regimes run by elites with low levels of spending on health and education. (4)
	b. The dominant IGOs (World Bank, IMF, WTO) promote views of development that are based on the development of capitalist economies that adopt free trade, privatisation and deregulation of financial markets but also promote programmes aimed at improving health, education and human rights.
	c. Progress against the United Nation's Millennium Development Goals (MDGs) has been mixed in terms of individual countries, global regions and targets; the UN post-2015 development agenda expands on the MDGs, setting new goals.

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Enquiry question 2: Why do human rights vary from place to place?	
Key idea	**Detailed content**
2.1 Human rights have become important aspects of both international law and international agreements.	a. The United Nations Declaration of Human Rights is a statement of intent and a framework for foreign policy statements to explain economic or military intervention but not all states have signed the Declaration.
	b. The European Convention of Human Rights was drafted by the nations of the Council of Europe to help prevent conflict and integrated into the UK by the Human Rights Act of 1998; the European Convention of Human Rights remains controversial as some see it as an erosion of national sovereignty.
	c. The Geneva Convention forms a basis in international law for prosecuting individuals and organisations who commit war crimes and is endorsed by 196 countries; however few cases come to trial and over 150 countries continue to engage in torture.
2.2 There are significant differences between countries in both their definitions and protection of human rights.	a. Some states (🌍) frequently invoke human rights in international forums and debates whilst others prioritise economic development over human rights and defend this approach (🌍).
	b. Some superpowers and emerging powers have transitioned to more democratic governments but the degree of democratic freedom varies (🌍 comparison of an authoritarian and a democratic system); the protection of human rights and degree of freedom of speech varies.
	c. Levels of political corruption vary and can be measured (Index of Corruption); high levels of corruption are a threat to human rights as the rule of law can be subverted. (5)
2.3 There are significant variations in human rights within countries which are reflected in different levels of social development.	a. In some states (post colonial states) there are significant groups, defined by gender and/or ethnicity that have had fewer rights than the dominant group.
	b. Differences in rights are frequently reflected in differences in levels of health and education (🌍 indigenous populations in both North and South America).
	c. A demand for equality from both women and ethnic minorities has been an important part of the history of many states in recent years (🌍 Afghanistan, Australia, Bolivia) with progress taking place at different rates.

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Enquiry question 3: How are human rights used as arguments for military and political intervention?	
Key idea	**Detailed content**
3.1 There are different forms of geopolitical intervention in defence of human rights.	a. There is a wide range of geopolitical interventions to address development and human rights issues: development aid, trade embargoes, military aid, indirect and direct military action.
	b. Interventions are promoted by IGOs, national governments and NGO's (Amnesty International, Human Rights Watch) but there is seldom consensus about the validity of these interventions.
	c. Some Western governments frequently condemn human rights violations and use them as conditions for offering aid, negotiating trade agreements, and as a reason for military intervention, which challenge ideas of national sovereignty (🌍).
3.2 Development aid is focused on improving both human rights and social variables such as education and health.	a. Development aid takes many forms from charitable gifts to address the impacts of hazards (🌍 Haiti) administered both by NGOs (🌍 Oxfam, Christian Aid) and national governments, to IGOs offering loans. (6)
	b. The impact of development aid is contested, successes include progress in dealing with life-threatening conditions (malaria) and improvements in some aspects of human rights (gender equality).
	c. Critics suggest development aid traps people in dependency, promotes corruption and the role of elites at the expense of the human rights of minority groups (🌍).
3.3 Military aid and both indirect and direct military intervention are frequently justified in terms of human rights.	a. Global strategic interests might drive military interventions but are often justified in terms of human rights (🌍).
	b. Military aid, both in terms of training personnel and weapons sales, is sometimes used to support countries that themselves have questionable human rights records (🌍).
	c. Direct military intervention is increasingly part of a 'war on terror' which is partially justified as promoting human rights of minority communities (🌍) but is compromised by the use of torture by combatant states that have signed the UN Declaration of Human Rights (🌍).

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Enquiry question 4: What are the outcomes of geopolitical interventions in terms of human development and human rights?	
Key idea	**Detailed content**
4.1 There are several ways of measuring the success of geopolitical interventions.	a. Measurements of success comprise a wide range of variables including improvements in health, life expectancy, educational levels, gender equality, freedom of speech and successful management of refugees as well as increases in GDP per capita. (7)
	b. For some governments and IGOs, the introduction of democratic institutions is deemed important and freedom of expression is seen as central to the development of democratic and capitalist societies.
	c. For other countries, (🌍) success is measured in terms of economic growth with less attention on human rights or the development of democratic institutions and human rights. (8)
4.2 Development aid has a mixed record of success.	a. The relationship between aid, development, health and human rights is unclear, with relative success stories in some states (🌍 Botswana, Ebola in West Africa) contrasted with relative failure in other states (🌍 Haiti).
	b. In some states that receive substantial development aid, economic inequalities have increased while in other states economic inequalities have decreased; this in turn impacts on health and life expectancy. (9)
	c. The extent to which superpowers use development aid as an extension of their foreign policies and judge success in terms of access to resources, political support in IGOs and military alliances. (10)
4.3 Military interventions, both direct and indirect, have a mixed record of success.	a. The recent history of military interventions, both direct and indirect, suggest that there are significant costs, including loss of sovereignty and human rights (🌍) and contrasts between short-term gains with long-term costs (🌍).
	b. Other interventions have a stronger record of improving both human rights and development (🌍 Cote d'Ivoire 2011).
	c. Lack of action has also has consequences (🌍) which may impact negatively on both human rights and social development (health and education).

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Guidance for integrating geographical skills for Topic 9 Option 9.1

The following skills provide suggested opportunities for integrating the full range of skills outlined in the geographical skills appendix (Appendix 1). These skills are **not** exclusive to the topic areas under which they appear; students will need to be able to apply these skills across any suitable topic area throughout their course of study.

(1) Comparison of different measurements of development using ranked data.
(2) Use of divided bar graphs to understand and compare variations in education levels between countries.
(3) Use of scattergraphs to describe the relationship between health and life expectancy and other indicators of development.
(4) Use of proportional circles to show the relative size of government spending and the share of that spending devoted to welfare, health and education
(5) Use of global maps to show and compare variations in levels of corruption and types of government.
(6) Use of flow-lines on global maps to show both the direction and level of aid from donor to recipient global regions.
(7) Critical analysis of source material to identify possible reasons for error in the assessment of success.
(8) Use of GIS to represent data relating to global differences in economic growth
(9) Using Gini coefficient and income or wealth proportion for deciles of the population to describe inequalities in different states
(10) Critical analysis of source material to identify possible misuse of data in the assessment of success.

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Topic 9: Global Development and Connections
Option 9.2: Migration, Identity and Sovereignty

Overview

Globalisation involves movements of capital, goods and people. Tensions can result between the logic of globalisation, with its growing levels of interdependence among people, economies and nation states and the traditional definitions of national sovereignty and territorial integrity. International migration not only changes the ethnic composition of populations but also changes attitudes to national identity. At the same time, nationalist movements have grown in some places challenging dominant models of economic change and redefining ideas of national identity.

Global governance has a mixed record in its success in dealing with these tensions. It has promoted growth and political stability for some people in some places whilst not benefiting others. Unequal power relations have tended to lead to unequal social and economic outcomes.

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Content

Enquiry question 1: What are the impacts of globalisation on international migration?	
Key idea	**Detailed content**
1.1 Globalisation has led to an increase in migration both within countries and among them.	a. Globalisation has caused extremely significant changes in the global economic system, changing the pattern of demand for labour; this has encouraged both rural-urban migration within countries (🌍 China) and international migration between countries (🌍 EU-Schengen).
	b. Between 3–4% of the global population live outside their country of birth but this proportion varies greatly between countries because of different policies relating to international migration and levels of engagement with the global economy (🌍 Singapore, Japan, Australia). (1)
	c. The pattern of international migration is changing and will continue to change because economic and political events affect both the source areas of many migrants and their destinations; this results in flows of both economic migrants and refugees. (2)
1.2 The causes of migration are varied, complex and subject to change.	a. Most migrants move for work or to re-join family members; there are other significant causes including displacement of refugees due to conflict and poverty in their regions of origin (🌍 migrants crossing the Mediterranean).
	b. Economic theory suggests that economic efficiency is maximised when goods (free trade), capital (deregulated financial markets) and labour (open-borders) can move freely across international borders but this poses serious challenges for national identity and sovereignty.
	c. The movement of labour is unrestricted within many nation states to ensure efficient allocation of resources (🌍 regional movements in the UK) and the same logic applies for some global regions (EU) but does not yet apply at a global level.
1.3 The consequences of international migration are varied and disputed.	a. Migration changes the cultural and ethnic composition of nation states but the rate of assimilation of migrants varies from nation to nation especially when there are distinctive ethnic differences.
	b. Migration causes political tensions because of differences in views of the social, economic, cultural and demographic impact of migration (🌍 Labour flows across the Mexico-US border and between EU states). (3)
	c. There are variations in the ability of people to migrate across national borders according to levels of skill and income; another factor affecting migration is political responses to attitudes to mass movements across international borders (as within the EU).

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Enquiry question 2: How are nation states defined and how have they evolved in a globalising world?	
Key idea	**Detailed content**
2.1 Nation states are highly varied and have very different histories.	a. National sovereign states vary greatly in their ethnic, cultural and linguistic unity (🌍 Iceland compared to Singapore); this results from their history of population growth, their isolation and the role of migration. (4)
	b. Many national borders are a consequence of physical geography and historical development; other borders are a result of colonial history and might not take account of different ethnic or religious groups (🌍 Iraq, Rwanda) which can lead to problems of sovereignty and legitimacy.
	c. There are many contested borders (🌍 Ukraine, Russia) and not all nation states are universally recognised as such (🌍 Taiwan) which can lead to both conflict and population movements.
2.2 Nationalism has played a role in the development of the modern world.	a. 19th-century nationalism was important in the development of empires and a source of conflict in Europe and beyond as other nations became part of larger empires (🌍 British Raj in India).
	b. Since 1945, many new nation states have emerged as empires disintegrated; this has caused conflicts that were costly both economically and in human terms (🌍 Vietnam, Algeria).
	c. Patterns of migration between former colonies and the imperial core country are still evident and important in changing the ethnic composition and cultural heterogeneity of those countries. (5)
2.3 Globalisation has led to the deregulation of capital markets and the emergence of new state forms.	a. Globalisation has encouraged the growth of states that have low-tax regimes which provide havens for the profits for TNCs and homes for wealthy expatriates.
	b. Most governments and IGOs have accepted the emergence of tax-havens although many NGOs have raised objections.
	c. Growing global inequalities have been recognised as a major threat to the sustainability of the global economic system and some governments have promoted alternative models (🌍 Bolivia, Ecuador).(6)

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Enquiry question 3: What are the impacts of global organisations?	
Key idea	**Detailed content**
3.1 Global organisations are not new but have been important in the post-1945 world.	a. The United Nations was the first post-war IGO to be established and has grown in importance; its role in global governance is affected by the different geopolitical visons of members of the Security Council.
	b. Interventions by the UN through the use of economic sanctions and direct military intervention have been made in defence of human rights but have a mixed record of success. (🌍 Trade Embargo – Iran).
	c. Some member states (US, UK, Russia) have operated independently of the UN in intervening in 'failed states' or to conduct a 'war on terror' with profound impacts on geopolitical relations and global stability.
3.2 IGOs established after the Second World War have controlled the rules of world trade and financial flows.	a. The IMF, WB and WTO were established by the WWII allied nations and have been important in maintaining the dominance of 'western' capitalism, global economic management and trade policy.
	b. Global borrowing rules and trade policies have been especially effective in delivering growth to the developed world, but the impact of Structural Adjustment and HIPC policies on the developing world's economies and economic sovereignty is disputed (🌍 Jamaica's structural adjustment programme). (7)
	c. Membership of global trade and financial IGOs is almost universal, as a result of the dominance of these organisations, but regional groupings have emerged to challenge the dominance of neo-liberal policies (🌍 The Doha round).
3.3 Regional groups have also been formed largely for economic motives.	a. Regional groupings begin as trading blocs with the motive of increasing market area and allowing regional specialisation such as the European Coal and Steel Community (ECSC); in some cases, however, trading blocs have gone beyond this, moving towards closer political union (EU).
	b. For some blocs, the development of free trade areas is a step towards full integration of currencies and tax regimes in a 'united states, while for other blocs, full economic and political integration is seen as undesirable.
	c. In some cases, there are wider political motives for such blocs as nation states became more interdependent economically thus reducing risk of conflict; however, in other cases (🌍 NAFTA), the relationships between member states may be uneven.

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Enquiry question 4: What are the threats to national sovereignty in a more globalised world?	
Key idea	**Detailed content**
4.1 National identity is an elusive and contested concept.	a. Nationalism remains a powerful force; it is reinforced through education, sport and by political parties stressing loyalty to both the institutions and the ideals of nation states.
	b. Identity and loyalty might be tied to distinctive legal systems, methods of governance, national 'character' or even a landscape (🌍 The English Countryside).
	c. Most countries are multi-national with many contrasting ethnic groups; questions of national identity and loyalty are therefore complex, especially in an era of globalisation.
4.2 There are challenges to national identity.	a. Many UK-based companies are foreign owned (🌍 EDF, Jaguar), making 'Made in Britain' an increasingly complex idea. (8)
	b. 'Westernisation' is often dominated by US cultural values through the operation of large corporations in both retailing and entertainment; this, in turn, promotes a distinctive view of the benefits the dominant capitalist model.
	c. Land ownership in countries is increasingly non-national (🌍 Qatari and Russian property in London and Saudi, Chinese investment in land in many African states), which impacts on national identity.(9)
4.3 There are consequences of disunity within nations.	a. There are strong nationalist movements seeking to create independent, smaller states whilst remaining within larger trading groups (🌍 Catalonia and Scotland in the EU).
	b. There are significant political tensions in the BRIC and other emerging nations resulting from the uneven pattern of the costs and benefits of globalisation.
	c. The role of the state is variable and national identity is not always strong, especially in 'failed states' where there are stark differences between the politically and economically powerful elite, foreign investment groups and the wider population. (🌍). (10)

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Guidance for integrating geographical skills for Topic 9 Option 9.2

The following skills provide suggested opportunities for integrating the full range of skills outlined in the geographical skills appendix (Appendix 1). These skills are **not** exclusive to the topic areas under which they appear; students will need to be able to apply these skills across any suitable topic area throughout their course of study.

(1) Use of choropleth maps to show data relating to the proportion of population living outside their country of birth
(2) Use of flow-lines on global maps showing flows both the direction and number of migrants between global regions
(3) Use of online sources to obtain data relating to the economic contribution of migrants to a variety of country's economies
(4) Use of divided bar graphs to compare the ethnic diversity of countries
(5) Comparison of global maps of languages and colonial histories to analyse relationship between them
(6) Using the Gini coefficient and income/wealth proportions for deciles of the population to describe inequalities
(7) Use of GIS to represent data relating to global differences in economic growth
(8) Use of proportional circles to show size of output and level of foreign ownership of different economic sectors
(9) Critical analysis of source material to identify possible reasons for error in the assessment of land ownership
(10) Critical analysis of source material to identify possible misuse of data in the assessment of role of the state and national identity.

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Coursework: Independent Investigation

Overview

The purpose of this coursework is to test students' skills in independent investigation. Students are required to undertake an independent investigation that involves (but which need not be restricted to) fieldwork, producing a written report of 3000–4000 words. The student defines a question or issue relating to the compulsory or optional content. The student's investigation will incorporate fieldwork data (collected individually or as part of a group) and own research and/or secondary data. The student's report will evidence independent analysis and evaluation of data, presentation of data findings and extended writing.

Content

The independent investigation must:

- be based on a question or issue defined and developed by the student individually to address aims, questions and/or hypotheses relating to any of the compulsory or optional content
- incorporate field data and/or evidence from field investigations, collected individually or in groups
- draw on the student's own research, including their own field data and, if relevant, secondary data sourced by the student
- require the student independently to contextualise, analyse and summarise findings and data
- involve the individual drawing of conclusions and their communication by means of extended writing and the presentation of relevant data.

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Students will be expected to show evidence that they have used both quantitative and qualitative data to support their independent investigation as appropriate to the particular environment and / or location.

Students are required to complete a minimum of **four** days of fieldwork. Part of this fieldwork must be chosen to support geographical understanding in both physical and human geography. It must also provide an introduction to the nature and process of a high-quality geographical enquiry.

Full details of the required fieldwork skills are provided in *Appendix 2: Fieldwork skills.*

Centres will be required to provide evidence of this fieldwork (which can include days undertaken if part of a separate AS Level in Geography) in the form of a written fieldwork statement. See *Appendix 6: Fieldwork statement*.

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The fieldwork that forms the focus and context of the individual investigation may be either human, physical or integrated physical-human. The topic must relate to an aspect of geography in the specification, and must facilitate the development of the following core skills:

- research relevant literature sources and understand and write up the theoretical or comparative context for a research question
- define the research questions which underpin field investigations
- demonstrate practical knowledge and understanding of field methodologies appropriate to the investigation of core human and physical processes
- observe and record phenomena in the field and devise, implement and justify practical approaches taken in the field including frequency/timing of observation, sampling, and data collection approaches so that good quality data/ information can be collected
- demonstrate knowledge and understanding of the techniques appropriate for analysing field data and information and for representing results, and show ability to select suitable quantitative or qualitative approaches and to apply them
- demonstrate the ability to interrogate and critically examine field data in order to comment on its accuracy and/or the extent to which it is representative, and use the experience to extend geographical understanding
- show the ability to write up field results clearly and logically, using a range of presentation methods and apply existing knowledge, theory and concepts in order to understand field observations and make a well argued case
- evaluate and reflect on fieldwork investigations, explain how the results relate to the wider context and show an understanding of the ethical dimensions of field research.

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The table below shows a suitable A Level Geography route to enquiry which forms the student's independent investigation:

Stage	**Description**
Purpose, identification of a suitable question/aim/hypothesis and developing a focus	Identify appropriate field research questions/aims/hypotheses, based on their knowledge and understanding of relevant aspects of physical and/or human geography. Research the relevant literature sources linked to possible fieldwork opportunities presented by the environment, considering their practicality and relationship to compulsory and optional content. Understand the nature of the current literature research relevant to the focus. This should be clearly and appropriately referenced within the written report.
Designing the fieldwork methodologies, research and selection of appropriate equipment	Consideration of how to observe and record phenomena in the field and to design appropriate data-collection strategies taking account of sampling and the frequency and timing of observation. Demonstrate knowledge and understanding of how to select practical field methodologies (primary) appropriate to their investigation (may include a combination of qualitative and quantitative techniques).
Information collation and data representation and analysis	Know how to use an appropriate diagrams, graphs and maps, and using geospatial technologies to select and present relevant aspects of the investigation outcomes.
Analysis and explanation of information	Use techniques appropriate for analysing field data and research information. Demonstrate the ability to write a coherent analysis of fieldwork findings and results linked to a specific geographical focus.
Conclusions and critical reflection on methods and results	Use knowledge and understanding to interrogate and interpret meaning from their investigation (theory, concepts, comparisons), through the significance of conclusions. Demonstrate the ability to interrogate and critically examine field data (including any measurement errors) in order to comment on its accuracy and/or the extent to which it is representative and reliable.
Recognising the wider geographical context	Explain how the results relate to the wider geographical context and use the experience to extend geographical understanding. Show an understanding of the ethical dimensions of field research.

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Learning hours for the independent investigation are not specified because the process of producing the report is iterative and undertaken independently.

The independent investigation report may be completed at school / college, or at home (or other location outside school / college), or at a combination of both.

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Assignment setting, taking and marking, Assignment research (including assignment writing)

This specification will be updated once the arrangements for non-exam assessment have been finalised. The following statement has been agreed by all awarding organisations:

The A Level non-exam assessment comprises an Independent Investigation. It is a compulsory requirement of the course of study and accounts for 20% of the qualification grade.

Awarding organisations are working together to agree common principles for the guidance and arrangements for task setting, task taking, and the declarations required to show that work is authentic and meets specification requirements.

The final requirements for non-exam assessment will be consistent across all awarding organisations. The accredited specifications will be updated in autumn 2015 to include this information.

Health and safety

All centres must comply with the new requirements (2011) of relevant legislation and codes of practice, including the Department for Education health and safety guidance for schools (www.education.gov.uk/schools/adminandfinance/healthandssafety) and the Health and Safety Executive – School trips and outdoor learning activities (www.hse.gov.uk/services/education/school-trips.pdf).

Centres should also develop their own mechanisms so that students know the importance of ensuring their own safety and that of others. This could include developing risk assessments as part of the preparation for fieldwork, for example by using Google Maps and Google StreetView to assess likely hazards and risk. Students who might be lone working should be provided with additional information and guidance and the centre must have suitable policies and procedures for lone working.

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Resources

Students must have equal access to IT resources. Students should have access to a range of resources, literature and texts to enable them to make choices as required for their research task.

Storing students' work

Where students are completing the assignment over a number of sessions, at the end of each session their work must be saved and kept securely.

Word count

It is recommended that students write between 3000 and 4000 words for their independent investigation. The recommended word count is applied to continuous written prose only. It excludes, for example, words in tables, headings, graphs and words used to annotate diagrams and photographs. Students should be advised that if they exceed the word count it is likely that they will not be able to satisfy the requirement of producing of a concise, structured report.

Submission of the Individual Geographical Investigation Report

The student's completed individual investigation report should be submitted to Pearson. The original Coursework Authentication Sheet must be included.

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Marking, standardisation and moderation

The independent investigation is internally marked and externally moderated. There is a maximum of 60 marks available for the independent investigation. Teachers should mark the independent investigation using the assessment criteria on the following pages. Teachers may annotate students' work but should also include any comments on the *Coursework authentication sheet* (see *Appendix 5*) to justify the marks awarded.

Where marking has been carried out by more than one teacher in a centre, there must be a process of internal standardisation carried out to ensure that there is a consistent application of the assessment criteria.

Marks awarded by the centre will be subject to external moderation by Pearson. Moderation will ensure consistency with national standards and will include a review of assignments to ensure that the assignment-setting rules have been correctly applied by centres. Pearson will notify centres of the students whose work has been selected for moderation. This sample will take cohort size into account.

If the moderation indicates that centre assessment does not reflect national standards, an adjustment will be made to students' final marks to compensate.

For further information please refer to the Joint Council for Qualifications (JCQ) *Instructions for Conducting Coursework* on the JCQ website: www.jcq.org.uk. The assessment of this qualification must comply with these instructions.

Coursework assessment criteria

Teachers must mark students' work using the following assessment criteria.

Marking guidance

- All students must receive the same treatment. Teachers must mark the last student in exactly the same way as they mark the first.
- Mark schemes should be applied positively. Students must be rewarded for what they have shown they can do rather than be penalised for omissions.
- All the marks on the mark scheme are designed to be awarded. Teachers should always award full marks if deserved, i.e. if the answer matches the mark scheme. Teachers should be prepared to award zero marks if the student's response is not worthy of credit according to the mark scheme.

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		Purpose of the Independent Investigation (12 marks) (AO1: 3 marks, AO2: 3 marks and AO 3: 6 marks)
Level	**Mark**	**Descriptor**
	0	No rewardable material.
Level 1	1-4	• Demonstrates isolated elements of geographical knowledge and understanding of location, geographical theory and comparative context , which are frequently irrelevant or inaccurate (AO1) • May attempt to apply understanding to find links between the investigation's context and a broader geographical context but links are irrelevant with frequent inaccuracies (AO2). • May attempt to investigate frequently irrelevant and narrow range of geographical sources in order to identify/obtain geographical information and data that is frequently inaccurate and only occasionally supports the investigation; the aim, question or hypothesis is generic or unlinked to research information, and provides an unfocused framework for investigation, with flawed consideration of manageability and/or scale (AO3) • May attempt to break down geographical research information; ascribes unsupported/flawed meaning and judgements to data and evidence (AO3)
Level 2	5-8	• Demonstrates geographical knowledge and understanding of location, geographical theory and comparative context which is relevant but narrow or incomplete, and may include some inaccuracies. (AO1) • Applies understanding to find links between the investigation's context and a broader geographical context; links are mainly relevant and coherent but may include some inaccuracies (AO2). • Investigates a range of mainly relevant geographical sources in order to identify/obtain mainly accurate geographical information and data that supports most parts of the investigation; research information is used to construct a generally valid aim, question or hypothesis that provides a mostly appropriate framework for investigation with some consideration of manageability and/or scale (AO3) • Breaks down mainly relevant geographical research information in order to ascribe mainly evidenced meaning to data and evidence (AO3)
Level 3	9-12	• Demonstrates accurate and relevant geographical knowledge and understanding of location, geographical theory and comparative context throughout. (AO1) • Applies understanding to find coherent and relevant links between the investigation's context and a broader geographical context (AO2). • Investigates a wide range of relevant geographical sources in order to identify/obtain accurate geographical information and data that support the investigation; research information is used to construct a justified aim, question or hypothesis that provides an appropriate framework for investigation at a manageable scale (AO3) • Breaks down relevant geographical research information systematically in order to ascribe justified meaning to data and evidence (AO3)

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		Field Methodologies and Data Collection (10 marks) (AO3: 10 marks)
Level	**Mark**	**Descriptor**
	0	No rewardable material.
Level 1	1-5	• An inappropriate balance between range and depth of methods chosen to collect data and information relevant to the geographical focus (AO3). • A sampling framework is absent or is not relevant to the topic being investigated (AO3). • No consideration of either frequency or timing of observations (AO3). • Research planning shows limited understanding of the ethical dimensions of field research methods (AO3) • Poor quality data and information as a result of inaccurate use of methods with low levels of accuracy/precision (AO3).
Level 2	6-8	• Chooses methods to collect data and information relevant to the geographical topic (AO3). • A sampling framework is considered but may not be technically valid or successfully implemented (AO3). • Consideration of either frequency or timing of observations (AO3). • Research planning shows understanding of the ethical dimensions of field research methods, which may be generic or incomplete (AO3) • Data and information collected using methods with inconsistent accuracy/precision (AO3).
Level 3	9-10	• Chooses appropriate methods to collect a range of data and information relevant to the geographical topic (A03). • Designs a valid sampling framework explicitly linked and appropriate to the geographical focus being investigated (AO3). • Considers both frequency and timing of observations (AO3). • Research planning shows appropriate and relevant understanding of the ethical dimensions of field research methods (AO3) • Obtains reliable data and information as a result of consistent use of methods with high levels of accuracy/precision (AO3).

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		Data Representation, Analysis, Interpretation and Evaluation of Techniques and Methodologies used (20 marks) (AO3: 20 marks)
Level	**Mark**	**Descriptor**
	0	No rewardable material.
Level 1	1-5	• Indiscriminate use of geographical skills to deconstruct data; connections used to show the statistical/ geographical significance of data are unsupported or linked to flawed evidence. (AO3) • Ascribes unsupported/flawed meaning to data and evidence (AO3) • Provides a flawed or incomplete appraisal of techniques and methodologies used including: - Ethical dimensions of field research - Utility and validity of chosen methodologies (AO3) • Any attempt to synthesise research findings is incoherent; conclusions may be attempted but are frequently flawed and unsupported or linked to irrelevant evidence (AO3) • Conclusions, if attempted, are simplistic and generic; may attempt to support conclusions with frequently irrelevant references to fieldwork data or information; responses are presented in a manner that is unclear and/or technically inaccurate (AO3)
Level 2	6-10	• Uses geographical skills, which may not be the most appropriate, to deconstruct data in order to show connections that lack support from evidence and the statistical/ geographical significance of data, which may be incomplete and lack accuracy. (AO3) • Ascribes occasionally supported meaning to data and evidence (AO3) • Provides a narrow or imbalanced appraisal of techniques and methodologies used including: - Ethical dimensions of field research - Utility and validity of chosen methodologies (AO3) • Synthesises research findings in a superficial manner to form some rational conclusions that are occasionally supported by evidence which might be limited or incomplete (AO3) • Communicates conclusions that are supported by fieldwork data or information which are occasionally relevant; responses are presented in a manner which may be occasionally incoherent and is sometimes technically accurate (AO3)

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		Data Representation, Analysis, Interpretation and Evaluation of Techniques and Methodologies used *continued*
Level	**Mark**	**Descriptor**
Level 3	11-15	• Uses appropriate geographical skills to deconstruct data in order to show partially evidenced connections and mostly accurate statistical/geographical significance of data. (AO3) • Ascribes mostly supported meaning to data and evidence (AO3) • Provides a generally balanced appraisal, that may lack detail in some aspects of techniques and methodologies used including: - Ethical dimensions of field research - Utility and validity of chosen methodologies (AO3) • Synthesises research findings coherently to form rational conclusions that are mostly supported by evidence (AO3) • Communicates conclusions that are supported by mostly relevant fieldwork data or information presented in a manner which is appropriate and mostly technically accurate (AO3)
Level 4	16-20	• Uses appropriate geographical skills to deconstruct data in order to show evidenced connections and accurate statistical/geographical significance of data. (AO3) • Ascribes justified meaning to data and evidence (AO3) • Provides detailed and balanced appraisal of techniques and methodologies used including: - Ethical dimensions of field research - Utility and validity of chosen methodologies (AO3) • Synthesises research findings coherently to form rational evidence-based conclusions (AO3) • Communicates convincing conclusions that are supported by the clear and technically accurate presentation of relevant fieldwork data or information (AO3)

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		Conclusions and Critical Evaluation of the Overall Investigation (18 marks) (AO1: 3 marks, AO2: 3 marks and AO 3: 12 marks)
Level	**Mark**	**Descriptor**
	0	No rewardable material.
Level 1	1-6	• Demonstrates isolated elements of geographical knowledge and understanding of location, geographical theory and comparative context, which are frequently irrelevant or inaccurate (AO1) • May attempt to apply understanding to find inaccurate or irrelevant links between the investigation's conclusions and a broader geographical context (AO2). • Synthesis of research findings is indiscriminate and only occasionally coherent (AO3) • Appraisal of the reliability of evidence and validity of conclusions is imbalanced and frequently narrow or flawed (AO3) • A simplistic, undeveloped argument is expressed through flawed or largely incoherent lines of reasoning. Uses some accurate geographical terminology. AO3) • Conclusions, if attempted, are simplistic; may attempt to support conclusions with links to evidence and concepts which are frequently limited or irrelevant (AO3)
Level 2	7-12	• Demonstrates mostly accurate and relevant geographical knowledge and understanding of location, geographical theory and comparative context. (AO1) • Applies understanding to find largely coherent and relevant links between the investigation's conclusions and a broader geographical context (AO2). • Synthesises most aspects of the research findings in a largely coherent manner (AO3) • Provides a mainly appropriate appraisal of the reliability of evidence and validity of conclusions (AO3) • A developed argument which considers a relevant selection of factors in an uneven manner and which is expressed through logical lines of reasoning that are not fully developed. Uses mostly accurate geographical terminology.(AO3) • Conclusions are mostly supported by drawing together a selection of mostly relevant evidence and concepts linked to the investigation (AO3)
Level 3	13-18	• Demonstrates accurate and relevant geographical knowledge and understanding of location, geographical theory and comparative context throughout. (AO1) • Applies understanding to find coherent and relevant links between the investigation's conclusions and a broader geographical context (AO2). • Synthesises research findings coherently and comprehensively (AO3) • Provides a balanced appraisal of the reliability of evidence and validity of conclusions (AO3) • A balanced, well-developed argument is expressed through sustained logical lines of reasoning. Uses accurate geographical terminology throughout. (AO3) • Convincing conclusions that are fully supported by drawing together a selection of relevant evidence and concepts linked to the entire purpose of the investigation (AO3)

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Security and backups

It is the centre's responsibility to keep the work that students have submitted for assessment secure.

Secure storage is defined as a securely-locked cabinet or cupboard. Where students are producing artefacts, secure storage is defined as a classroom studio or workshop that is locked or supervised from the end of one session to the start of the next.

The rules on storage also apply to electronic data. For example, centres should collect memory sticks for secure storage between sessions or restrict student access to specific areas of the centre's IT network.

For materials stored electronically, centres are strongly advised to utilise firewall protection and virus-checking software, and to employ an effective backup strategy, so that an up-to-date archive of students' evidence is maintained.

Further information

For up-to-date advice on teacher involvement and administration of coursework, please refer to the Joint Council for Qualifications (JCQ) document *GCE, ELC and Project qualifications – Instructions for Conducting Coursework* available on the JCQ website: www.jcq.org.uk

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3 Assessment information

Paper 1 (Paper code: 9GE0/01)

- First assessment: May/June 2018.
- The assessment is 2 hours.
- The assessment is out of 90 marks.
- The assessment consists of four sections.
- Students must answer **all** questions in Section A, Section C and Section D. Students answer **either** Question 2 (Glaciated Landscapes and Change) **or** Question 3 (Coastal Landscapes and Change) in Section B.
- The paper may include short open, open response, calculations and resource-linked questions. The examination includes 10-mark and 15-mark extended writing questions.
- Calculators may be used in the examination.

Content assessed

- Area of study 1 Topic 1: Tectonic Processes and Hazards
- Area of study 1 Topic 2: Landscape Systems, Processes and Change– including optional sub-topics from which students choose **one** from two: 2.1 Glaciated Landscapes and Change or 2.2 Coastal Landscapes and Change
- Area of study 3 Topic 5: The Water Cycle and Water Insecurity
- Area of study 3 Topic 6: The Carbon Cycle and Energy Security
- Area of study 3 Topic 7: Climate Change Futures

Paper 2 (Paper code: 9GE0/02)

- First assessment: May/June 2018.
- The assessment 2 hours.
- The assessment is out of 90 marks.
- The assessment consists of four sections.
- Students must answer all questions in Section A and Section C. Students answer one Question from Section B and one Question from Section D.
- The paper may include short open, open response, calculations and resource-linked questions. The examination includes 10-mark and 15-mark extended writing questions.
- Calculators may be used in the examination.

Content assessed

- Area of study 2 Topic 3: Globalisation
- Area of study 2 Topic 4: Shaping Places – including optional sub-topics from which students choose **one** from two: 4.1 Regenerating Places or 4.2 Diverse Places
- Area of study 4 Topic 8: Superpowers
- Area of study 4 Topic 9: Global Development and Connections – including optional sub-topics from which students choose **one** from two: 9.1 Health, Human Rights and Intervention or 9.2 Migration, Identity and Sovereignty

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Paper 3 (Paper code: 9GE0/03)

- First assessment: May/June 2018.
- The assessment is 1 hour and 45 minutes.
- The assessment is out of 60 marks.
- The assessment consists of three sections and students must answer all questions.
- The paper may include open response, calculations and resource-linked questions. The examination includes 6-mark, 15-mark and 18-mark extended writing questions.
- Calculators may be used in the examination.

Content assessed

- Synoptic assessment of geographical skills, knowledge and understanding (within a place-based context) from compulsory content drawn from different parts of the course.

Coursework: Independent Investigation (Paper code: 9GE0/04)

- The student undertakes an independent investigation, producing a written report of 3000–4000 words.
- The student defines a question or issue relating to the compulsory or optional content.
- The student's investigation will incorporate fieldwork data (collected individually or as part of a group) and own research and/or secondary data.
- The report will evidence independent analysis and evaluation of data, presentation of data findings and extended writing.
- The report is internally assessed and externally moderated.
- The independent investigation report must be submitted at the end of the course.
- Centres must ensure that independent investigation reports submitted are valid for the series in which they are submitted.

Content assessed

The fieldwork which forms the focus and context of the individual investigation may be either human, physical or integrated physical-human. The topic must relate to an aspect of geography in the specification, and facilitate the development of the following core skills:

- research relevant literature sources and understand and write up the theoretical or comparative context for a research question
- define the research questions which underpin field investigations
- demonstrate practical knowledge and understanding of field methodologies appropriate to the investigation of core human and physical processes
- observe and record phenomena in the field and devise, implement and justify practical approaches taken in the field including frequency/timing of observation, sampling, and data collection approaches so that good quality data/ information can be collected
- demonstrate knowledge and understanding of the techniques appropriate for analysing field data and information and for representing results, and show ability to select suitable quantitative or qualitative approaches and to apply them
- demonstrate the ability to interrogate and critically examine field data in order to comment on its accuracy and/or the extent to which it is representative, and use the experience to extend geographical understanding
- show the ability to write up field results clearly and logically, using a range of presentation methods and apply existing knowledge, theory and concepts in order to understand field observations and make a well argued case
- evaluate and reflect on fieldwork investigations, explain how the results relate to the wider context and show an understanding of the ethical dimensions of field research.

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Assessment Objectives

Students must:		% in GCE A Level
AO1	Demonstrate knowledge and understanding of places, environments, concepts, processes, interactions and change, at a variety of scales	36
AO2	Apply knowledge and understanding in different contexts to interpret, analyse and evaluate geographical information and issues	40
AO3	Use a variety of relevant quantitative, qualitative and fieldwork skills to: • investigate geographical questions and issues • interpret, analyse and evaluate data and evidence • construct arguments and draw conclusions	24
	Total	**100%**

Breakdown of Assessment Objectives

Paper	Assessment Objectives			Total for all Assessment Objectives
	AO1 %	AO2 %	AO3 %	
Paper 1	14.5	15.5	0	30
Paper 2	14.5	15.5	0	30
Paper 3	5	7	8	20
Coursework: Independent Investigation	2	2	16	20
Total for GCE A Level	**36%**	**40%**	**24%**	**100%**

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NB: Totals have been rounded either up or down.

Synoptic assessment

Synoptic assessment requires students to work across different parts of a qualification and to show their accumulated knowledge and understanding of a topic or subject area.

Synoptic assessment enables students to show their ability to combine their skills, knowledge and understanding with breadth and depth of the subject.

Synopticity will be assessed in Paper 3.

Sample assessment materials

Sample papers and mark schemes can be found in the *Pearson Edexcel Level 3 Advanced GCE in Geography* Sample Assessment Materials (SAMs) document.

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4 Administration and general information

Entries

Details of how to enter students for the examinations for this qualification can be found in our *UK Information Manual*. A copy is made available to all examinations officers and is available on our website: qualifications.pearson.com

Forbidden combinations and discount code

Centres should be aware that students who enter for more than one GCE qualification with the same discount code will have only one of the grades they achieve counted for the purpose of the School and College Performance Tables – normally the better grade (please see *Appendix 10: Codes*).

Students should be advised that, if they take two qualifications with the same discount code, colleges, universities and employers are very likely to take the view that they have achieved only one of the two GCEs. The same view may be taken if students take two GCE qualifications that have different discount codes but which have significant overlap of content. Students or their advisers who have any doubts about their subject combinations should check with the institution to which they wish to progress before embarking on their programmes.

Access arrangements, reasonable adjustments, special consideration and malpractice

Equality and fairness are central to our work. Our equality policy requires all students to have equal opportunity to access our qualifications and assessments, and our qualifications to be awarded in a way that is fair to every student.

We are committed to making sure that:

- students with a protected characteristic (as defined by the Equality Act 2010) are not, when they are undertaking one of our qualifications, disadvantaged in comparison to students who do not share that characteristic
- all students achieve the recognition they deserve for undertaking a qualification and that this achievement can be compared fairly to the achievement of their peers.

Language of assessment

Assessment of this qualification will be available in English. All student work must be in English.

Access arrangements

Access arrangements are agreed before an assessment. They allow students with special educational needs, disabilities or temporary injuries to:

- access the assessment
- show what they know and can do without changing the demands of the assessment.

The intention behind an access arrangement is to meet the particular needs of an individual student with a disability, without affecting the integrity of the assessment. Access arrangements are the principal way in which awarding bodies comply with the duty under the Equality Act 2010 to make 'reasonable adjustments'.

Access arrangements should always be processed at the start of the course. Students will then know what is available and have the access arrangement(s) in place for assessment.

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Reasonable adjustments

The Equality Act 2010 requires an awarding organisation to make reasonable adjustments where a person with a disability would be at a substantial disadvantage in undertaking an assessment. The awarding organisation is required to take reasonable steps to overcome that disadvantage.

A reasonable adjustment for a particular person may be unique to that individual and therefore might not be in the list of available access arrangements.

Whether an adjustment will be considered reasonable will depend on a number of factors, which will include:

- the needs of the student with the disability
- the effectiveness of the adjustment
- the cost of the adjustment; and
- the likely impact of the adjustment on the student with the disability and other students.

An adjustment will not be approved if it involves unreasonable costs to the awarding organisation, timeframes or affects the security or integrity of the assessment. This is because the adjustment is not 'reasonable'.

Special consideration

Special consideration is a post-examination adjustment to a student's mark or grade to reflect temporary injury, illness or other indisposition at the time of the examination/ assessment, which has had, or is reasonably likely to have had, a material effect on a candidate's ability to take an assessment or demonstrate their level of attainment in an assessment.

Further information

Please see our website for further information about how to apply for access arrangements and special consideration.

For further information about access arrangements, reasonable adjustments and special consideration, please refer to the JCQ website: www.jcq.org.uk.

Malpractice

Candidate malpractice

Candidate malpractice refers to any act by a candidate that compromises or seeks to compromise the process of assessment or which undermines the integrity of the qualifications or the validity of results/certificates.

Candidate malpractice in controlled assessments discovered before the candidate has signed the declaration of authentication form does not need to be reported to Pearson.

Candidate malpractice found in controlled assessments after the declaration of authenticity has been signed, and in examinations **must** be reported to Pearson on a *JCQ M1 Form* (available at www.jcq.org.uk/exams-office/malpractice). The completed form can be emailed to pqsmalpractice@pearson.com or posted to Investigations Team, Pearson, 190 High Holborn, London, WC1V 7BH. Please provide as much information and supporting documentation as possible. Note that the final decision regarding appropriate sanctions lies with Pearson.

Failure to report candidate malpractice constitutes staff or centre malpractice.

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Staff/centre malpractice

Staff and centre malpractice includes both deliberate malpractice and maladministration of our qualifications. As with candidate malpractice, staff and centre malpractice is any act that compromises or seeks to compromise the process of assessment or undermines the integrity of the qualifications or the validity of results/certificates.

All cases of suspected staff malpractice and maladministration **must** be reported immediately, before any investigation is undertaken by the centre, to Pearson on a *JCQ M2(a) Form* (available at www.jcq.org.uk/exams-office/malpractice). The form, supporting documentation and as much information as possible can be emailed to pqsmalpractice@pearson.com or posted to Investigations Team, Pearson, 190 High Holborn, London, WC1V 7BH. Note that the final decision regarding appropriate sanctions lies with Pearson.

Failure to report malpractice itself constitutes malpractice.

More-detailed guidance on malpractice can be found in the latest version of the document *JCQ General and Vocational Qualifications Suspected Malpractice in Examinations and Assessments,* available at www.jcq.org.uk/exams-office/malpractice.

Awarding and reporting

This qualification will be graded, awarded and certificated to comply with the requirements of Ofqual's General Conditions of Recognition.

This A Level qualification will be graded and certificated on a six-grade scale from A* to E using the total subject mark. Individual papers/coursework component are not graded.

The first certification opportunity for this qualification will be 2018.

Students whose level of achievement is below the minimum judged by Pearson to be of sufficient standard to be recorded on a certificate will receive an unclassified U result.

Grade descriptions

The grade descriptions for this qualification are published by Ofqual and will be available on their website.

Pearson Subject Level Accreditation DRAFT

Student recruitment and progression

Pearson follows the JCQ policy concerning recruitment to our qualifications in that:

- they must be available to anyone who is capable of reaching the required standard
- they must be free from barriers that restrict access and progression
- equal opportunities exist for all students.

Prior learning and other requirements

There are no prior learning or other requirements for this qualification.

Students who would benefit most from studying this qualification are likely to have a Level 2 qualification such as a GCSE in Geography.

Progression

Students can progress from this qualification to:

- a range of different, relevant academic or vocational higher education qualifications
- employment in a relevant sector
- further training.

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Appendices

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Appendix 1: Geographical skills

Students are required to develop a range of geographical skills throughout their course of study. These skills may be assessed across any of the areas of study and coursework. The full list of required geographical skills is given in the table below.

The geographical skills listed in the '*Guidance for integrating geographical skills*' tables (detailed in each content topic) are a compulsory part of the course of study and do form part of the assessment. This guidance provides suggested opportunities for integrating the full range of skills outlined in the geographical skills appendix. These skills are **not** exclusive to the topic areas under which they appear; students will need to be able to apply these skills across any suitable topic area throughout their course of study.

This specification requires students to evidence a variety of geographical skills, covering:

- Cartographic skills (including atlas and other map skills and OS* map skills (1:50,000 and 1:25,000 scales))
- Graphical skills (including images and photography)
- Numerical and statistical skills
- Technology/ICT skills (including GIS and geospatial**skills)
- Qualitative, quantitative, data and information research skills
- Communicating and evaluating findings.

*Note: a key to OS maps at either 1:25,000 or 1:50,000 will not normally be provided in an examination.

** 'Geospatial' is information describing the location and names of features beneath, on or above the earth's surface.

A level Geographical skills requirement:

Cartographic skills (Atlas and generic map skills)	
Geographical Skill number	**Geographical skill description**
1a (i)	Describe, interpret and analyse distributions and patterns of both human and physical features at local, regional and international scales
1a (ii)	Describe, interpret and analyse choropleth, isoline and dot maps to show indexes, indices and raw data relating to global differences between and within regions and countries
1a (iii)	Describe, interpret and analyse desire lines, proportional symbols and flow lines to show a variety of data at different scales.

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Cartographic skills (OS* map skills (1:50,000 and 1:25,000 scales)	
1b (i)	Carry out basic map skills including grid references, distances and interpret topography from contour lines
1b (ii)	Recognise, describe, interpret and analyse patterns of vegetation, basic land use and communications infrastructure as well as other patterns relevant to human and physical landscapes (appropriate to OS maps)
1b (iii)	Describe, interpret and analyse a variety of other physical and human features/information present on OS maps.

Graphical skills (including images and photography)	
Geographical Skill number	**Geographical skill description**
2a	Select, describe and interpret: line graphs, bar graphs, histograms, radial diagrams, dispersion diagrams, triangular graphs and kite diagrams, using both linear and logarithmic scales where appropriate.
2b	Label and annotate different diagrams: maps, graphs, sketches and photographs.
2c	Use, describe and interpret: aerial, oblique, ground and satellite photographs from a range of different landscapes and perspectives.
2d	Construct and interpret line graphs, bar graphs, histograms, radial diagrams, dispersion diagrams, triangular graphs and kite diagrams, these may also be added (geo-located) onto maps and topological diagrams.
2e	Use maps in association with photographs and sketches to interpret and recognise directions.

Numerical and Statistical skills	
Geographical Skill number	**Geographical skill description**
3a	Demonstrate an understanding of data (nominal, ordinal, interval and ratio), area and scale and the quantitative relationships between units, and absolute versus relative
3b	Use, in different contexts: proportion and ratio, magnitude and frequency and draw informed conclusions from numerical data presented in unfamiliar contexts
3c	Calculate, describe, interpret and analyse measures of central tendency and dispersion: median, mean, range, quartiles and inter-quartile ranges and mode
3d	Describe, interpret and analyse visual relationships in scatter-graphs; draw, interpret and analyse lines of best fit, describe, interpret and analyse trends, rates of change and identify anomalies
3e	Describe, interpret and analyse calculated numerical measures of correlation and association from statistical tests.
3f	Describe, interpret and analyse statistical measures of inequality using Gini coefficients.

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Technology / ICT Skills (including GIS and Geospatial skills)	
Geographical Skill number	**Geographical skill description**
4a	Understand a variety of standalone or online GIS software to present and describe geo-spatial information at a variety of scales.
4b	Understand techniques that can be used to analyse information presented as points, lines and polygons.
4c	Recognise how GIS is an important tool to help evaluate geographical information and reach conclusions about complex geographical problems.

Qualitative, Quantitative, Data and Information Research skills	
Geographical Skill number	**Geographical skill description**
5a	Describe, interpret and analyse different types of geographical information, including images, factual text and discursive / creative material, digital data, numerical and spatial data and innovative forms of data, including crowd-sourced and 'big data'.
5b	Research, source, select and evaluate digital and other source material from a range of available sources, including: general websites, online news and newspaper reports, specialist reports, blogs, interviews and forums and interviews appropriate to the topic.
5c	Use online sources to obtain local information relating to physical and human topics including: geo-demographic data and online flood risk maps.
5d	As appropriate to the topic, interpret and analyse real-time data and information available from different internet sources
5e	Undertake informed and critical questioning of data sources, analytical methodologies, data reporting and presentation, including the ability to identify sources of error in data and to identify the misuse of data.
5f	Use geographical techniques and methods to deconstruct quantitative and qualitative data in order to show connections, the significance of data and to ascribe meaning.
5g	Understand the opportunities and limitations of chosen techniques and methods and appreciate how they actively create particular geographical representations.
5h	Understand the ethical and socio-political implications of collecting, studying and representing geographical data about human communities.

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Communicating and evaluating findings	
Geographical Skill number	**Geographical skill description**
6a	Draw conclusions that are supported by evidence and wider theory.
6b	Construct extended written arguments about geographical matters that use logical lines of reasoning.

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Appendix 2: Fieldwork skills

A Level students must undertake a minimum of **four** days of fieldwork. Centres will be required to provide evidence of this fieldwork in the form of a written fieldwork statement.

In the coursework component, students are required to undertake an independent investigation that involves (but need not be restricted to) fieldwork, producing a written report.

Fieldwork must be carried out in relation to physical and human geography. Students will be expected to show evidence that they have used both quantitative and qualitative data to support their independent investigation as appropriate to the particular environment and / or location.

A Level students investigating geographical questions and issues are required to evidence the skills listed here:

A Level Fieldwork Skills requirements:	
Fieldwork Skill Number	**Fieldwork Skill description**
1	research relevant literature sources and understand and write up the theoretical or comparative context for a research question
2	define the research questions which underpin field investigations
3	demonstrate practical knowledge and understanding of field methodologies appropriate to the investigation of core human and physical processes
4	observe and record phenomena in the field and devise, implement and justify practical approaches taken in the field including frequency/timing of observation, sampling, and data collection approaches so that good quality data/ information can be collected
5	demonstrate knowledge and understanding of the techniques appropriate for analysing field data and information and for representing results, and show ability to select suitable quantitative or qualitative approaches and to apply them
6	demonstrate the ability to interrogate and critically examine field data in order to comment on its accuracy and/or the extent to which it is representative, and use the experience to extend geographical understanding
7	show the ability to write up field results clearly and logically, using a range of presentation methods and apply existing knowledge, theory and concepts in order to understand field observations and make a well argued case
8	evaluate and reflect on fieldwork investigations, explain how the results relate to the wider context and show an understanding of the ethical dimensions of field research

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Appendix 3: Definitions

Terms used in this specification and their definition.

Term	Definition
Developing country	Country with low human development (LHD), a poor country
Emerging country	Country with high and medium human development (HMHD), recently emerging country
Developed country	Country with very high human development (VHHD)
Megacity	Urban area with a population of over 10 million

Human Development is measured by the Human Development Index (HDI). For further information on which countries are categorised as Low, Medium, High and Very High Human Development by HDI please go to this website: http://hdr.undp.org

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Appendix 4: Exam command word definitions

This table lists the command words that could be used in the examinations for this qualification and their definitions.

Command word	Definition
Explain (short)	Provide a reasoned explanation of how or why something occurs. An explanation requires a justification/exemplification of a point that has been identified.
Explain (extended)	Apply knowledge and understanding and/or use geographical skills to provide a developed, reasoned explanation of how or why something[1] occurs. An extended response explanation requires a depth of understanding to be demonstrated through the justification/exemplification of points that have been identified.
Examine	Apply knowledge and understanding to break something down into individual components/processes and say how each one individually contributes to the question's theme/topic and how the components/processes work together and interrelate.
Assess	Apply knowledge and understanding to use evidence to determine the relative significance of something. Give balanced consideration to all factors and identify which are the most important.
Analyse	Use geographical skills to investigate an issue by systematically breaking it down into individual components and making logical, evidence-based connections about the causes and effects or interrelationships between the components.
Evaluate	Apply knowledge and understanding to measure the value or success of something and ultimately provide a balanced and substantiated judgement/conclusion. Review information and then bring it together to form a conclusion, drawing on evidence such as strengths, weaknesses, alternatives and relevant data.

[1] Extended writing explanations can appear in the context of knowledge and understanding or the context of an investigation.

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Appendix 5: Coursework authentication sheet

Pearson Edexcel Level 3 Advanced GCE in Geography		**9GE0 / 04**
		Y/N
Centre name:		Centre number:
Candidate name:		Candidate number:
Assignment	**Mark awarded**	**Comments** *[NB: Comment box expands as you start entering text].*
Independent Investigation		
TOTAL	**/ 60**	

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Teacher declaration

I declare that the work submitted for assessment has been carried out without assistance other than that which is acceptable according to the rules of the specification.

Assessor name:			
Assessor signed:		Date:	

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Candidate declaration

I certify that the work submitted for this assessment is my own. I have clearly referenced any sources used in the work. I understand that false declaration is a form of malpractice.

Candidate signed:		Date:	

Additional candidate declaration

By signing this additional declaration you agree to your work being used to support Professional Development, Online Support and Training of both Centre-Assessors and Pearson Moderators. If you have any concerns please email: emgeography@pearson.com

Candidate signed:		Date:	

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Appendix 6: Fieldwork statement

Pearson Edexcel Level 3 Advanced GCE in Geography	**9GE0 / 04**
Centre name:	Centre number:
All candidates must carry out **four** days of fieldwork outside of the classroom and school grounds.	
Details of fieldwork	
Fieldwork day 1 Fieldwork date:_____ Location:_____ Number of students:_____ Summary of geographical issues/questions investigated:	**Fieldwork day 2** Fieldwork date:_____ Location:_____ Number of students:_____ Summary of geographical issues/questions investigated:
Fieldwork day 3 Fieldwork date:_____ Location:_____ Number of students:_____ Summary of geographical issues/questions investigated:	**Fieldwork day 4** Fieldwork date:_____ Location:_____ Number of students:_____ Summary of geographical issues/questions investigated:

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Head teacher declaration

I declare that the fieldwork days recorded above have been carried out in accordance with the Geography fieldwork requirements.

Head teacher name:			
Head teacher signature:		Date:	

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Appendix 7: The context for the development of this qualification

All our qualifications are designed to meet our World Class Qualification Principles[1] and our ambition to put the student at the heart of everything we do.

We have developed and designed this qualification by:

- reviewing other curricula and qualifications to ensure that it is comparable with those taken in high-performing jurisdictions overseas
- consulting with key stakeholders on content and assessment, including learned bodies, subject associations, higher-education academics, teachers and employers to ensure this qualification is suitable for a UK context
- reviewing the legacy qualification and building on its positive attributes.

This qualification has also been developed to meet criteria stipulated by Ofqual in their documents *GCE Qualification Level Conditions and Requirements* and *GCE Subject Level Conditions and Requirements for Geography,* published in March 2015.

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[1] Pearson's World Class Qualification Principles ensure that our qualifications are:

- **demanding**, through internationally benchmarked standards, encouraging deep learning and measuring higher-order skills
- **rigorous**, through setting and maintaining standards over time, developing reliable and valid assessment tasks and processes, and generating confidence in end users of the knowledge, skills and competencies of certified students
- **inclusive**, through conceptualising learning as continuous, recognising that students develop at different rates and have different learning needs, and focusing on progression
- **empowering**, through promoting the development of transferable skills, see *Appendix 8*: *Transferable Skills*.

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From Pearson's Expert Panel for World Class Qualifications

"The reform of the qualifications system in England is a profoundly important change to the education system. Teachers need to know that the new qualifications will assist them in helping their learners make progress in their lives.

When these changes were first proposed we were approached by Pearson to join an 'Expert Panel' that would advise them on the development of the new qualifications.

We were chosen, either because of our expertise in the UK education system, or because of our experience in reforming qualifications in other systems around the world as diverse as Singapore, Hong Kong, Australia and a number of countries across Europe.

We have guided Pearson through what we judge to be a rigorous qualification development process that has included:

- Extensive international comparability of subject content against the highest-performing jurisdictions in the world
- Benchmarking assessments against UK and overseas providers to ensure that they are at the right level of demand
- Establishing External Subject Advisory Groups, drawing on independent subject-specific expertise to challenge and validate our qualifications
- Subjecting the final qualifications to scrutiny against the DfE content and Ofqual accreditation criteria in advance of submission.

Importantly, we have worked to ensure that the content and learning is future oriented. The design has been guided by what is called an 'Efficacy Framework', meaning learner outcomes have been at the heart of this development throughout.

We understand that ultimately it is excellent teaching that is the key factor to a learner's success in education. As a result of our work as a panel we are confident that we have supported the development of qualifications that are outstanding for their coherence, thoroughness and attention to detail and can be regarded as representing world-class best practice."

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Sir Michael Barber (Chair)
Chief Education Advisor, Pearson plc

Professor Sing Kong Lee
Director, National Institute of Education, Singapore

Bahram Bekhradnia
President, Higher Education Policy Institute

Professor Jonathan Osborne
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Professor Dr Ursula Renold
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Professor Robin Coningham
Pro-Vice Chancellor, University of Durham

Professor Bob Schwartz
Harvard Graduate School of Education

Dr Peter Hill
Former Chief Executive ACARA

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Appendix 8: Transferable skills

The need for transferable skills

In recent years, higher education institutions and employers have consistently flagged the need for students to develop a range of transferable skills to enable them to respond with confidence to the demands of undergraduate study and the world of work.

The Organisation for Economic Co-operation and Development (OECD) defines skills, or competencies, as 'the bundle of knowledge, attributes and capacities that can be learned and that enable individuals to successfully and consistently perform an activity or task and can be built upon and extended through learning.'[1]

To support the design of our qualifications, the Pearson Research Team selected and evaluated seven global 21st-century skills frameworks. Following on from this process, we identified the National Research Council's (NRC) framework as the most evidence-based and robust skills framework. We adapted the framework slightly to include the Program for International Student Assessment (PISA) ICT Literacy and Collaborative Problem Solving (CPS) Skills.

The adapted National Research Council's framework of skills involves[2]:

Cognitive skills

- **Non-routine problem solving** – expert thinking, metacognition, creativity.
- **Systems thinking** – decision making and reasoning.
- **Critical thinking** – definitions of critical thinking are broad and usually involve general cognitive skills such as analysing, synthesising and reasoning skills.
- **ICT literacy** – access, manage, integrate, evaluate, construct and communicate[3].

Interpersonal skills

- **Communication** – active listening, oral communication, written communication, assertive communication and non-verbal communication.
- **Relationship-building skills** – teamwork, trust, intercultural sensitivity, service orientation, self-presentation, social influence, conflict resolution and negotiation.
- **Collaborative problem solving** – establishing and maintaining shared understanding, taking appropriate action, establishing and maintaining team organisation.

Intrapersonal skills

- **Adaptability** – ability and willingness to cope with the uncertain, handling work stress, adapting to different personalities, communication styles and cultures, and physical adaptability to various indoor and outdoor work environments.
- **Self-management and self-development** – ability to work remotely in virtual teams, work autonomously, be self-motivating and self-monitoring, willing and able to acquire new information and skills related to work.

Transferable skills enable young people to face the demands of further and higher education, as well as the demands of the workplace, and are important in the teaching and learning of this qualification. We will provide teaching and learning materials, developed with stakeholders, to support our qualifications.

[1] OECD (2012), Better Skills, Better Jobs, Better Lives (2012): http://skills.oecd.org/documents/OECDSkillsStrategyFINALENG.pdf

[2] Koenig, J. A. (2011) Assessing 21st Century Skills: Summary of a Workshop, National Research Council

[3] PISA (2011) The PISA Framework for Assessment of ICT Literacy, PISA

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Appendix 9: Level 3 Extended Project qualification

What is the Extended Project?

The Extended Project is a standalone qualification that can be taken alongside GCEs. It supports the development of independent learning skills and helps to prepare students for their next step – whether that be university study or employment. The qualification:

- is recognised by universities for the skills it develops
- is worth half of an Advanced GCE qualification at grades A*–E
- carries UCAS points for university entry.

The Extended Project encourages students to develop skills in the following areas: research, critical thinking, extended writing and project management. Students identify and agree a topic area of their choice for in-depth study (which may or may not be related to a GCE subject they are already studying), guided by their teacher.

Students can choose from one of four approaches to produce:

- a dissertation (for example an investigation based on predominately secondary research)
- an investigation/field study (for example a practical experiment)
- a performance (for example in music, drama or sport)
- an artefact (for example creating a sculpture in response to a client brief or solving an engineering problem).

The qualification is coursework based and students are assessed on the skills of managing, planning and evaluating their project. Students will research their topic, develop skills to review and evaluate the information, and then present the final outcome of their project.

The Extended Project has 120 guided learning hours (GLH) consisting of a 40-GLH taught element that includes teaching the technical skills (for example research skills) and an 80-GLH guided element that includes mentoring students through the project work. The qualification is 100% internally assessed and externally moderated.

How to link the Extended Project with geography

The Extended Project creates the opportunity to develop transferable skills for progression to higher education and to the workplace, through the exploration of either an area of personal interest or a topic of interest from within the geography qualification content.

Through the Extended Project students will develop skills that support their study of geography, including:

- conducting, organising and using research
- independent reading in the subject area
- planning, project management and time management
- defining a hypothesis to be tested in investigations
- collecting, handling and interpreting data and evidence
- evaluating arguments and processes, including arguments in favour of alternative interpretations of data and evaluation of experimental methodology
- critical thinking.

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In the context of the Extended Project, critical thinking refers to the ability to identify and develop arguments for a point of view or hypothesis and to consider and respond to alternative arguments and interpretations of information. This supports the development of evaluative skills, through evaluating geographical data, and using qualitative and quantitative evidence to support informed judgements and propose evidence-based solutions to geographical issues.

Types of Extended Project related to geography

Students may produce a dissertation on any topic that can be researched and argued, for example a controversial geographical issue such as landscape management or public opinion on re-branding or re-imaging of an urban or rural area.

A dissertation might involve an investigation such as:

- the impact of changes to the built environment in a chosen urban or rural area
- an investigation into the success of coastal management approaches in a chosen area.

The dissertation uses secondary research sources to provide a reasoned defence or a point of view, with consideration of alternative interpretations of data and evidence.

An alternative might be an investigative project or field study involving the collection of data from primary research, for example:

- a study of the impact of human activity on a glaciated area
- a survey of historical change in an area

A field study might consider an issue that lends itself to primary research, for example an investigation into local perceptions of the impact of a regeneration project in a rural or urban area.

Using the Extended Project to support breadth and depth

In the Extended Project, students are assessed on the quality of the work they produce and the skills they develop and demonstrate through completing this work. Students should demonstrate that they have extended themselves in some significant way beyond what they have been studying in geography. Students can demonstrate extension in one or more dimensions:

- ***deepening understanding*** – where a student explores a topic in greater depth than in the specification content. This could be an in-depth exploration of one aspect of one of the synoptic themes specified in the specification
- ***broadening skills*** – where a student learns a new skill. This might be learning a new statistical technique that can be used in the analysis of either primary or secondary data collected by the student
- ***widening perspectives*** – where the student's project spans different subjects. A student studying geography with business may wish to research the impact of tourism on a particular region or locality.

A wide range of information to support the delivery and assessment of the Extended Project, including the specification, teacher guidance for all aspects, an editable scheme of work and exemplars for all four approaches, can be found on our website.

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Appendix 10: Codes

Type of code	Use of code	Code
Discount codes	Every qualification is assigned to a discount code indicating the subject area to which it belongs. This code may change. See our website (qualifications.pearson.com) for details of any changes.	RF4
National Qualifications Framework (NQF) codes	Each qualification title is allocated an Ofqual National Qualifications Framework (NQF) code. The NQF code is known as a Qualification Number (QN). This is the code that features in the DfE Section 96 and on the LARA as being eligible for 16–18 and 19+ funding, and is to be used for all qualification funding purposes. The QN will appear on students' final certification documentation.	The QN for this qualification is: XXX/XXXX/X
Subject codes	The subject code is used by centres to enter students for a qualification. Centres will need to use the entry codes only when claiming students' qualifications.	A Level – 9GE0
Paper codes	These codes are provided for reference purposes. Students do not need to be entered for individual papers.	Paper 1: 9GE0/01 Paper 2: 9GE0/02 Paper 3: 9GE0/03 Coursework: 9GE0/04

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