GCSE

WJEC GCSE in GEOGRAPHY

APPROVED BY QUALIFICATIONS WALES

SPECIFICATION

Teaching from 2016
For award from 2018

Version 2 January 2019

SUMMARY OF AMENDMENTS

Version	Description	Page number
2	'Making entries' section has been amended to clarify resit rules and carry forward of NEA marks.	32

WJEC GCSE in GEOGRAPHY

For teaching from 2016
For award from 2018

This specification meets the GCSE Qualification Principles which set out the requirements for all new or revised GCSE specifications developed to be taught in Wales from September 2016.

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GCSE GEOGRAPHY (Wales)

SUMMARY OF ASSESSMENT

Unit 1: Changing Physical and Human Landscapes
Written examination: 1 hour 30 minutes
40% of qualification **83 marks**

Section A: Core Themes
Two structured, data response questions assessing Core Theme 1 (Landscapes and Physical Processes) **and** Core Theme 2 (Rural-urban Links).

Section B: Options
One structured question (from a choice of two) assessing either Theme 3 (Tectonic Landscapes and Hazards) **or** Theme 4 (Coastal Hazards and their Management). These themes provide additional **breadth** of study for the content assessed in the core themes.
Assessment will be by data response questions.
Some questions will require extended responses.

Unit 2: Environmental and Development Issues
Written examination: 1 hour 30 minutes
40% of qualification **83 marks**

Section A: Core Themes
Two structured, data response questions assessing Core Theme 5 (Weather, Climate and Ecosystems) **and** Core Theme 6 (Development and Resource Issues).

Section B: Options
One structured question (from a choice of two) assessing either Theme 7 (Social Development Issues) **or** Theme 8 (Environmental Challenges). These themes provide additional **depth** of study for the content assessed in the core themes.
Assessment will be by data response questions.
Some questions will require extended responses.

Unit 3: Fieldwork Enquiry
Non-examination assessment: 2 hours 30 minutes
20% of qualification **44 marks**

Unit 3 requires a written report from the learner, to include evidence of their understanding of the enquiry process and their independent ability to process/present data and complete extended writing. The report must be written in response to specific questions set by WJEC.

This linear qualification will be available in May/June each year. It will be awarded for the first time in summer 2018.

Qualification Number listed on The Register: 601/7663/5

Qualifications Wales Approval Number listed on QiW: C00/0779/2

GCSE GEOGRAPHY

1 INTRODUCTION

1.1 Aims and objectives

WJEC GCSE Geography adopts an enquiry approach to the study of geographical information, issues and concepts. It is based on the principle that geographical education should enable learners to become critical and reflective thinkers by engaging them actively in the enquiry process. Content is organised around key questions and learners should be encouraged to pose geographical questions of their own.

Fieldwork is an essential aspect of geographical education and of this qualification. It is placed at the heart of this specification and teachers should embed fieldwork within any programme of study that they create. Learners should consolidate and extend their understanding of geographical concepts learned in the classroom by engaging with enquiries conducted outside of the classroom and school grounds. Furthermore, they should be challenged to apply what they have learned through specific fieldwork in local contexts to the wider context of UK geography. By posing enquiry questions, learners develop the ability to relate these concepts to real world situations in order to make sense of wider spatial patterns.

The enquiry approach taken by WJEC GCSE Geography, in both classroom and fieldwork contexts, should enable learners to develop the ability to think 'like a geographer' if they are given opportunities to:

- think creatively, for example, by posing questions that relate to geographical processes and concepts that include questioning about spatial pattern and geographical change
- think scientifically by collecting and recording appropriate evidence from a range of sources, including fieldwork, before critically assessing the validity of this evidence and synthesising their findings to reach evidenced conclusions that relate to the initial aim of their enquiry
- think independently by applying geographical knowledge, understanding, skills and approaches appropriately and creatively to real world contexts. In so doing they should appreciate that geography can be 'messy' i.e. that real geography does not always match typical or predicted outcomes

WJEC GCSE Geography develops and extends learners' knowledge of locations, places, environments and processes, at a range of different scales. Learners should build upon their locational knowledge acquired during key stage 3. They should have locational knowledge of Wales, the UK, the continents and oceans as well as locational and contextual knowledge of at least one low income country (LIC) **and** one newly industrialised country (NIC). LICs and NICs are listed in Appendix B on page 35 of the specification. In addition, learners studying Theme 7 should have locational and contextual knowledge of at least one country in South Asia **or** sub-Saharan Africa. These countries are listed in Appendix C on page 35 of the specification.

Learners should develop their understanding of a number of key overarching geographical concepts such as cause and effect, cycles and flows, geographical futures, interconnectedness and sustainable communities. These concepts provide a framework for each key idea of WJEC GCSE Geography. Learners should demonstrate understanding of these concepts at a variety of specified scales and in a variety of specified places and contexts. WJEC GCSE Geography provides opportunities for learners to understand these concepts and, therefore, more about the world, the challenges it faces and their place within it. Following this GCSE course will deepen understanding of geographical processes, illuminate the impact of change and of complex people-environment interactions, and highlight the dynamic links and interrelationships between places and environments at different scales.

Mathematical, cartographic, mapping and statistical skills are embedded in the qualification to develop learners' competence in using a wide range of geographical investigative skills and approaches. Learners should be given the opportunity to represent geographical data using a range of cartographical and graphical techniques. They should also be given the opportunity to analyse a variety of maps, graphs, photographs and data sets whilst exploring the content of **each** unit. The range and extent of mathematical and statistical techniques required by WJEC GCSE Geography is outlined in Appendix A on pages 33-34 of the specification. These skills will be assessed across **all three** units.

The integration of knowledge and understanding with appropriate geographical skills with this qualification enables young people to become globally and environmentally informed and thoughtful, enquiring citizens.

1.2 Prior learning and progression

There are no previous learning requirements for this specification. Any requirements set for entry to a course based on this specification are at the school/college's discretion.
This specification builds on subject content which is typically taught at key stage 3 and is designed in such a way as to ensure progression in the following ways:

- broadening and deepening understanding of locational contexts, including greater awareness of the importance of scale and the concept of global
- a greater emphasis given to process studies that lead to an understanding of change
- a greater stress on the multivariate nature of 'human-physical' relationships and interactions
- a stronger focus on forming generalisations and/or abstractions, including some awareness of theoretical perspectives and of the subject's conceptual frameworks
- an increased involvement of learners in planning and undertaking independent enquiry in which skills and knowledge are applied to investigate geographical questions
- enhancing competence in a range of intellectual and communication skills, including the formulation of arguments, that include elements of synthesis and evaluation of material.

This specification provides a suitable foundation for the study of Geography at either AS or A level. In addition, the specification provides a coherent, satisfying and worthwhile course of study for learners who do not progress to further study in this subject.

1.3 Equality and fair access

This specification may be followed by any learner, irrespective of gender, ethnic, religious or cultural background. It has been designed to avoid, where possible, features that could, without justification, make it more difficult for a learner to achieve because they have a particular protected characteristic.

The protected characteristics under the Equality Act 2010 are age, disability, gender reassignment, pregnancy and maternity, race, religion or belief, sex and sexual orientation.

The specification has been discussed with groups who represent the interests of a diverse range of learners, and the specification will be kept under review.

Reasonable adjustments are made for certain learners in order to enable them to access the assessments (e.g. candidates are allowed access to a Sign Language Interpreter, using British Sign Language). Information on reasonable adjustments is found in the following document from the Joint Council for Qualifications (JCQ): *Access Arrangements and Reasonable Adjustments: General and Vocational Qualifications.*

This document is available on the JCQ website (www.jcq.org.uk). As a consequence of provision for reasonable adjustments, very few learners will have a complete barrier to any part of the assessment.

1.4 Welsh Baccalaureate

In following this specification, learners should be given opportunities, where appropriate, to develop the skills that are being assessed through the Skills Challenge Certificate within the Welsh Baccalaureate:

- Literacy
- Numeracy
- Digital Literacy
- Critical Thinking and Problem Solving
- Planning and Organisation
- Creativity and Innovation
- Personal Effectiveness.

1.5 Welsh perspective

In following this specification, learners must consider a Welsh perspective if the opportunity arises naturally from the subject matter and if its inclusion would enrich learners' understanding of the world around them as citizens of Wales as well as the UK, Europe and the world. Where the study of a Welsh perspective is essential it is indicated in the depth of study, for example, in Key Ideas 1.1 and 2.1.

2 SUBJECT CONTENT

The content of WJEC GCSE Geography is organised into core and options. Within each theme, learners are encouraged to take **an enquiry approach** to a range of overarching geographical concepts. The content of each unit is summarised below.

<table>
<tr><th colspan="3">Unit 1: Changing Physical and Human Landscapes</th></tr>
<tr><td>Core themes</td><td>1 Landscapes and Physical Processes
2 Rural-urban Links</td><td>Learners should study both core themes. It is recommended that learners spend a minimum of 20 guided learning hours on each core theme.</td></tr>
<tr><td>Options</td><td>3 Tectonic Landscapes and Hazards
4 Coastal Hazards and their Management</td><td>Learners should study one of these options themes which add breadth of knowledge to the core. It is recommended that learners spend a minimum of 12 guided learning hours on the selected options theme.</td></tr>
<tr><th colspan="3">Unit 2: Environmental and Development Issues</th></tr>
<tr><td>Core themes</td><td>5 Weather, Climate and Ecosystems
6 Development and Resource Issues</td><td>Learners should study both core themes. It is recommended that learners spend a minimum of 20 guided learning hours on each core theme.</td></tr>
<tr><td>Options</td><td>7 Social Development Issues
8 Environmental Challenges</td><td>Learners should study one of these options themes which add depth of knowledge to the core. It is recommended that learners spend a minimum of 12 guided learning hours on the selected options theme.</td></tr>
<tr><th colspan="3">Unit 3: Fieldwork Enquiry</th></tr>
<tr><td colspan="3">Learners should be given the opportunity to develop their skills of geographical enquiry through fieldwork. They are expected to undertake two fieldwork enquiries, each in a contrasting environment:
In one environment the focus of the fieldwork will be on methodology*
The second fieldwork experience should take place in a contrasting environment. The focus of the fieldwork enquiry should be into geography's conceptual frameworks*
* In each cycle the methodology and conceptual framework will be selected by WJEC from those listed in Table A (page 25) and Table B (pages 26-27).</td></tr>
</table>

2.1 Unit 1

Changing Physical and Human Landscapes

Written examination: 1 hour 30 minutes
40% of qualification
80 marks (plus 3 marks for the accuracy of spelling, punctuation and grammar)

Unit 1 contains two core themes and two options. Learners should study **both** core themes and **one** of the options.

Learners should be given the opportunity to develop their knowledge and understanding of the content set out in the key ideas, enquiry questions and depth of study detailed on pages 7-12. *Examples (in italics) are to aid understanding and suggest range, and these are not compulsory.*

Learners should also develop their mathematical and statistical skills whilst preparing for this Unit. The depth of coverage required of these skills is given in Appendix A on pages 31-32 of the specification.

Section A: Core Themes

Learners should study **both** of these themes.

Core Theme 1: LANDSCAPES AND PHYSICAL PROCESSES

Learners should be given the opportunity to develop their understanding of the conceptual framework that supports the depth of study outlined below. They should have the opportunity to develop their understanding of cause and effect; cycles and flows; geographical futures; inter-connectedness (between human and physical processes); place/uniqueness; process and change; and scale when exploring this theme.

Key Idea 1.1: Distinctive landscapes in Wales

Key questions	Depth of study
1.1.1 What makes landscapes distinctive in Wales?	An overview of the distribution of major types of landscape in Wales *(for example, upland and lowland regions)* and the location of significant landscape features. Factors that make Welsh landscapes distinctive *(for example, land use, culture, geology and vegetation)*. A study of **one** located, distinctive Welsh landscape *(for example, the coastal landscape of Glamorgan, or the glaciated uplands of Snowdonia)* and its smaller scale human and physical features.
1.1.2 How are physical landscapes in Wales affected by human activity?	The environmental challenges created by human activity in one distinctive landscape to include the positive and negative impacts of visitor pressure and changing rural economies and societies. The concepts of honey pot sites and carrying capacity.
1.1.3 How can landscapes in Wales be managed?	Strategies to manage the landscape, to include management of visitors, and to repair damage to landscapes or environments under pressure *(for example, footpath maintenance).*

Key Idea 1.2: Landform process and change in two different and distinctive landscapes of Wales or the wider UK

Key questions	Depth of study
1.2.1 How do processes work together to create landform features at different scales in river **and** coastal landscapes in Wales?	How and why river landforms (of different scales) change over time. Processes of fluvial erosion (abrasion, attrition, hydraulic action and solution), transportation and deposition which result in the development of landforms to include v-shaped valleys, waterfalls, gorges, floodplains and meanders and their associated smaller scale features (to include slip-off slopes in meanders and plunge pools in waterfalls). How and why coastal landforms (of different scales) change over time. Slope and coastal processes that result in cliff retreat to include weathering, rock falls and landslides. Links between sediment supply, transport (including longshore drift) and deposition that have created distinctive landforms in **one** located coastal environment in Wales. The development of distinctive coastal features to include headlands/bays, cliffs, wave-cut platforms, arches, stacks, beaches, and spits and their associated smaller scale features to include rock pools, wave-cut notches and bedding planes.
1.2.2 What factors affect the rates of landform change in river **and** coastal landscapes in the UK?	How factors affect rates of landform change in river **and** coastal landscapes. • Geology to include the local nature of rocks *(for example, concordant and discordant coastlines).* • Climate to include its affect on the seasonal variation in discharge and the impact of extreme weather events on rates of landform change *(for example catastrophic change during a specific winter storm)*. • Human activity to include an overview of the intended and unintended consequences of human intervention *(for example, accelerated erosion resulting from interrupting patterns of longshore drift).*

Key Idea 1.3: Drainage basins of Wales and the UK

Key questions	**Depth of study**
1.3.1 What physical processes affect stores and flows in UK drainage basins?	Flows and stores of water in the drainage basin. The inter-relationships between drainage basin processes to include interception, infiltration, throughflow and overland flow.
1.3.2 Why do rivers in the UK flood?	The ways in which physical factors, to include climate, vegetation and geology, affect discharge and annual regimes. Human factors *(for example, changing land use)* that result in river flooding. The analysis of hydrographs. A detailed study of the causes and effects of flooding in at least **one** location in Wales or elsewhere in the UK.
1.3.3 What are the current and future management approaches to the problem of flooding in the UK?	Strategies for river channel and drainage basin management in the UK. Coverage must include 'hard' and 'soft' engineering and land use zoning. Conflicting views over river/floodplain management and floodplain development *(for example, the building of new homes)* which may lead to alternate geographical futures in the UK.

Core Theme 2: RURAL-URBAN LINKS

In this theme, learners must study **two** major cities, one in the UK and the other in either a low income country (LIC) **or** newly industrialised country (NIC)*. Both city studies must be set within the context of their region, country and wider world.

Learners should be given the opportunity to develop their understanding of the conceptual framework that supports the depth of study outlined below. They should have the opportunity to develop their understanding of cause and effect; cycles and flows; geographical futures; place/uniqueness; process and change; scale; spheres of influence; and sustainable communities when exploring this theme.

Key Idea 2.1: The urban-rural continuum in Wales

Key questions	Depth of study
2.1.1 How are urban and rural areas in Wales linked?	An overview of the location of significant areas of population in Wales. The concepts of the urban-rural contimuum and sphere of influence in relation to retailing and urban services *(for example, access to health care in rural areas).* The process of counter-urbanisation. The reasons for this process and its impact on rural settlements. Patterns of commuting and transport issues that arise from counter-urbanisation in Wales or between Wales and England.
2.1.2 How are rural areas in Wales changing?	Impacts of urban spheres of influence and technological change on service provision in rural areas *(for example, the closure of village post offices and banks).* Causes and effects of rural poverty and deprivation and the process of depopulation of remote rural areas. Strategies for creating sustainable rural communities.

Key Idea 2.2: Population and urban change in the UK

Key questions	Depth of study
2.2.1 What are the causes and consequences of population change in the UK?	Economic, political and social factors that affect population change in Wales and the wider UK including changing birth rates, the ageing population, and migration both into and within the UK. The economic, health and social challenges created by the ageing UK population. The need for new housing.
2.2.2 What are some of the contemporary challenges facing UK towns and cities?	Challenges of creating urban sustainable communities in UK towns/cities. The concept of Egan's wheel. Coverage must include issues in **one** brownfield context *(for example, urban regeneration of a city waterfront such as Cardiff Bay)* **and one** greenfield context.
2.2.3 How and why is retailing changing in the UK?	Economic, cultural and technological factors that have led to change in retailing. Costs and benefits of the development of out of town shopping and internet shopping. A study of high street change in UK towns/cities.

Key Idea 2.3: Urban issues in constrasting global cities

Key questions	Depth of study
2.3.1 What are the global patterns of urbanisation?	An overview of global patterns of urbanisation to include distribution of global cities* over space and how this pattern has changed over time.
2.3.2 What are the consequences of urbanisation in **two** global cities?	Ways of life in **two** global cities. One city must be located in either a low income country (LIC) or newly industrialised country (NIC). The other city must be located in a high income country (HIC). For each city, learners must set their studies within the regional, national and global context of that city. For each city: (a) The reasons for its growth to include natural population change and migration. How each city is connected to its wider city-region and to other parts of the world by migration. Push and pull factors for rural to urban migration at the regional/national scale and reasons for historic or recent international migration. (b) Ways of life to include social and cultural patterns within each city. The contribution of the informal economy in the LIC/NIC city. (c) Current urban challenges to include reducing poverty/ deprivation and providing housing.
2.3.3 How are global cities connected?	The concepts of global cities and globalisation. How global cities are connected through transport (for example, transport hubs, ports and airports) trade/tourism and media/communications. How each of the cities (studied in 2.3.2) is connected to the rest of the world.

***See Appendix B, on page 35, for a list of global cities, NICs and LICs which may be studied.**

Section B: Options

Learners should study **one** of these themes.

Theme 3: TECTONIC LANDSCAPES AND HAZARDS

Learners should be given the opportunity to develop their understanding of the conceptual framework that supports the depth of study outlined below. They should have the opportunity to develop their understanding of geographical futures; interconnectedness (between human and physical environments); interdependence (globalisation); process and change; scale; and sustainability when exploring this theme.

Key Idea 3.1: Tectonic processes and landforms

Key questions	Depth of study
3.1.1 How do tectonic processes work together to create landform features at different scales?	An overview of the global distribution of tectonic activity and its link to plate movement and boundaries. Large scale processes (convection, subduction and divergence) at constructive and destructive margins. Resulting large scale features to include rift valleys and ocean trenches. The concept of volcanic hotspots *(for example Hawaii).* Processes which result in distinctive volcanic landscape features: **Larger scale** features to include shield volcanoes, stratovolcanoes, caldera. **Smaller scale** features to include cinder cones, lava tubes and geysers.

Key Idea 3.2: Vulnerability and hazard reduction

Key questions	Depth of study
3.2.1 What are the impacts of tectonic processes?	Physical and human factors that increase vulnerability to tectonic hazards: **Physical factors** to include the magnitude of volcanic eruptions and earthquakes. The characteristics and scale of pyroclastic flows, lava flows, lahars and ash clouds. Impacts of earthquakes, tsunami and volcanic activity on health, infrastructure, and economy. **Social and economic factors** that can increase vulnerability of communities in tectonic zones in countries at different levels of economic development. Coverage must include **one** located example of a volcanic hazard and **one** earthquake event.
3.2.2 How might the risks associated with tectonic hazards be reduced?	How monitoring, hazard mapping, new building technology and improved emergency planning may be used to reduce the risks associated with earthquakes, tsunamis and volcanic eruptions.

Theme 4: COASTAL HAZARDS AND THEIR MANAGEMENT

Learners should be given the opportunity to develop their understanding of the conceptual framework that supports the depth of study outlined below. They should have the opportunity to develop their understanding of geographical futures; interconnectedness (between human and physical environments); mitigating risk; process and change; scale; and sustainability when exploring this theme.

Key Idea 4.1: Vulnerable coastlines

Key Questions	Depth of study
4.1.1 Why are some coastal communities vulnerable to erosion and flooding?	Physical and human factors that increase vulnerability to coastal erosion and coastal flooding. How severe weather events and climatic change create vulnerability to coastal flooding. Social and economic factors that can increase vulnerability in coastal communities in countries at different levels of economic development.

Key Idea 4.2: Managing coastal hazards

Key Questions	Depth of study
4.2.1 How are coastlines managed?	How 'hard' and 'soft' engineering strategies may be used to reduce the risk of erosion **and** flooding at the local scale. Contrasting opinions about 'hold the line' and 'managed retreat' options in relation to **one** low lying coastline at risk of sea level rise *(for example, North Norfolk or Essex).* The concept of cost-benefit. The social and economic reasons why some coastlines are protected whilst others are not. The role of Shoreline Management Plans in the UK. The need to co-ordinate coastal management at a regional/national scale. How monitoring *(for example, forecasting by the Met Office),* hazard mapping and emergency planning may be used to reduce the risk of coastal floods.
4.2.2 What is the most sustainable way to manage coastlines in the face of rising sea levels?	The reasons for increased vulnerability of some coastal communities in the future and why some coastlines are at greater risk than others. The specific challenges faced by Small Island States as sea levels rise. How and why sea level rise may lead to environmental refugees in the future. How governments in countries at different levels of economic development are facing this issue.

2.2 Unit 2

Environmental and Development Issues

Written examination: 1 hour 30 minutes
40% of qualification
80 marks (plus 3 marks for the accuracy of spelling, punctuation and grammar)

Unit 2 contains two core themes and two options. Learners should study **both** core themes and **one** of the options.

Learners should be given the opportunity to develop their knowledge and understanding of the content set out in the key ideas, enquiry questions and depth of study detailed on pages 13-18 of the specification. *Examples (in italics) are to aid understanding and suggest range, and these are not compulsory.*

Learners should also develop their mathematical and statistical skills whilst preparing for this Unit. The depth of coverage required of these skills is given in Appendix A on pages 33-34 of the specification.

Section A: Core themes

Learners should study **both** of these themes.

Core Theme 5: WEATHER, CLIMATE AND ECOSYSTEMS

Learners should be given the opportunity to develop their understanding of the conceptual framework that supports the depth of study outlined below. They should have the opportunity to develop their understanding of cause and effect; cycles and flows; geographical futures; inequality; interconnectedness (between human and physical environments); place; process and change; and scale when exploring this theme.

Key Idea 5.1: Climate change during the Quaternary period

Key questions	Depth of study
5.1.1 What is the evidence for climate change?	An overview of climate change to include the cyclical nature of glacial and inter-glacial periods. The validity of a range of evidence for climate change *(for example, tree rings, historical accounts, temperature records)* which must include ice cores and CO^2 levels.
5.1.2 What are the causes of climate change?	Flows and stores in the carbon cycle and the processes that link these stores. The greenhouse effect. How human activity affects the carbon cycle. Global cooling due to volcanic activity as **one** natural cause of climate change during the Quaternary period.

Key Idea 5.2: Weather patterns and process

Key questions	Depth of study
5.2.1 What are the causes and consequences of two weather hazards?	An overview of global circulation of the atmosphere. How global circulation creates areas of low **and** high pressure. How these different pressure systems each lead to weather hazards. **Low pressure:** The global distribution of areas affected by hurricanes/cyclones. Their changing patterns over time to include annual seasonality and longer term changes to frequency and magnitude. Detailed study of a least **one** located low pressure hazard to include its causes and consequences for people, environment and economy. **High pressure:** The global distribution of areas affected by heatwaves and drought. Their changing patterns over time to include longer term changes to frequency and magnitude *(for example, changing patterns of drought in Australia or Sahel countries over the last 50-100 years).* Detailed study of a least **one** located high pressure hazard to include its causes and consequences for people, environment and economy.
5.2.2 What factors create variations in weather and climate at different scales within the UK?	The difference between weather and climate. The impact of latitude, altitude and ocean currents on temperatures and rainfall in the UK. Weather associated with patterns of low and high pressure in the UK. The concepts of maritime and continental climates as they affect the UK. Factors that influence micro-climate.

Key Idea 5.3: Processes and interactions within ecosystems

Key questions	Depth of study
5.3.1 Where are large scale ecosytems found?	An overview of the location and global distribution of large scale ecosystems (biomes). The characteristics of large scale ecosytems to include the relationship between global climate patterns and their distribution
5.3.2 What are the key processes of ecosystems at different scales?	The location and distinctive features of the tropical rainforest ecosystem and its climate and **one** other contrasting biome *(for example, savanna* or *tundra or tropical coral reefs).* The processes and relationships that link living parts (humans, plants and animals) and non-living parts (soils, water and climate) in these **two** ecosystems at different scales: **Local scale** processes to include nutrient cycles and food webs. **Regional/global scales** to include water cycles and carbon cycles. Ways in which ecosystems provide people with key services *(for example, water cycle regulation and flood mitigation).* The key features of **one** small scale ecosystem in Wales *(for example, sand dune, urban park, hedgerow).* How human activity has affected biodiversity, local flows, cycles and processes within this ecosystem.

Key Idea 5.4: Human activity and ecosystem processes

Key questions	Depth of study
5.4.1 How do people use ecosystems and environments?	An overview of how people use, modify and change contrasting ecosystems for food, energy and water. How people use **one** environment for energy production (*for example, how the coastal environments of Wales may be used for wind energy and tidal barrages).* The potential impacts of energy production on this environment and its ecosystems and biodiversity.
5.4.2 How do human activities modify processes and interactions within ecosystems?	How human activity, to include food production, can have impacts, at a range of scales, on the tropical rainforest ecosystem and **one** other contrasting biome, which should be the same one chosen for 5.3.2. How these activities modify cycles and flows at different scales: **Local scale**: how and why loss of natural habitat results in changes to nutrient cycles, soil structure and soil erosion. **Regional scale**: how mono-culture and intensive farming can affect water cycles and regional climate. How these changes may impact on biodiversity *(for example, reduction in range, habitat, the creation of isolated populations and local/global extinctions).*
5.4.3 How can ecosystems be managed sustainably?	Sustainable environmental strategies to manage habitat and biodiversity in tropical rainforests and **one** contrasting ecosystem which should be the same one chosen for 5.3.2. Coverage to include zoning within National Parks and creation of wildlife corridors.

Core Theme 6: DEVELOPMENT AND RESOURCE ISSUES

Learners should be given the opportunity to develop their understanding of the conceptual framework that supports the depth of study outlined below. They should have the opportunity to develop their understanding of cause and effect; cycles and flows; geographical futures; inequality; interdependence (globalisation); place/uniqueness; process and change; scale; spheres of influence; and sustainability when exploring this theme.

Key Idea 6.1: Measuring global inequalities

Key questions	Depth of study
6.1.1 How is economic development measured and what are contemporary global patterns?	How national wealth *(for example, GNI, GDP)* is used as a comparative measure of development and why this evidence of development has limitations. The concept of a continuum of economic development. The use of economic development evidence to consider the dynamic nature of the 'development gap'.

Key Idea 6.2: Causes and consequences of uneven development at the global scale and within one low income country (LIC) and one newly industrialised country (NIC). See Appendix B, on page 35, for a list of LICs and NICs from which **two** countries must be chosen for study.

Key questions	Depth of study
6.2.1 What are the causes and consequences of uneven development at the global scale?	In this key idea, learners must set their studies within the context of **two** economically developing countries which should be chosen from the list of LICs and NICs on page 35. How geo-political relationships, to include global trade, have led to uneven patterns of development. The role of imports, exports and trade blocs in international trade. The consequences of protectionist policies including tariffs, subsidies and quotas on development in **one** LIC **and one** NIC. The changing nature of global industry and the way in which it exploits uneven patterns of development to include: (a) Reasons why multinational companies (MNCs) locate plants in multiple countries. The consequences of globalisation on uneven development to include the advantages and disadvantages of MNCs and their impacts on patterns of work and development in Wales (or the wider UK) **and** in **one** NIC (this country should be the same as the NIC chosen for the study of trade in Key Idea 6.2). (b) The growing economic and employment contribution of tourism to the globalised economy. A detailed study of the positive and negative effects of tourism on patterns of uneven development, employment, environment, culture and infrastructure in **one** LIC **or one** NIC (this country should be the same as the country chosen for the study of trade in Key Idea 6.2). The potential impact of tourism's growth on employment structures *(for example, over dependence on tourism).* The concepts of enclave tourism and the informal economy and their consequences for development.
6.2.2 What are the responses to uneven development at the global scale?	How international aid from government and non-government organisations (NGOs) can help reduce inequality in **one** LIC **or one** NIC. The concepts of emergency aid, long-term development aid and development targets. The concept of fair trade and its benefits.

Key Idea 6.3: Water resources and their management

Key questions	Depth of study
6.3.1 How and why is the demand for water changing?	An overview of past *(for example, over the last 50-100 years)* and present global trends in water consumption. The concepts of water footprints and water security. The links between population growth, agricultural change, the growth of consumerism and increasing demands for water.
6.3.2 Are water resources being managed sustainably?	How and why people manage water supply through the construction of reservoirs for water supply/irrigation and HEP projects, water transfer schemes and the abstraction of ground-water. The social, economic and environmental consequences of water management in each of the following situations: 1. The management of water resources at an international scale, where rivers cross national boundaries 2. Small scale water management project where appropriate levels of technology are used *(for example, rain water harvesting).* 3. **One** location where over-abstraction of groundwater is an issue and where alternate geographical futures are considered.

Key Idea 6.4: Regional economic development

Key questions	Depth of study
6.4.1 What are the causes and consequences of regional patterns of economic development in **one** economically developing country?	Patterns of regional social/economic inequality in **one** NIC* **or one** LIC* (this country should be the same as one of the two countries chosen for the study of trade in Key Idea 6.2). Social, economic, cultural, political, and environmental factors that contribute to this pattern. Social and economic consequences of these regional inequalities.
6.4.2 What are the causes and consequences of regional patterns of economic development in the UK?	The concept of the north-south divide in the UK. Causes of patterns of wealth/poverty within the UK's standard regions and within Wales to include economic, political, social factors. Social and economic consequences of regional inequalities.
6.4.3 How can regional inequalities in the UK be reduced?	How investment creates growth in deprived regions. The concept of positive and negative multipliers. How national policies may be used to reduce regional inequality in the UK and Wales to include major infrastructure investment *(for example, HS2)*.

***See Appendix B, on page 35, for a list of NICs and LICs which may be studied.**

Section B: Options

Learners should study **one** of these themes.

Theme 7: SOCIAL DEVELOPMENT ISSUES

Learners should be given the opportunity to develop their understanding of the conceptual framework that supports the depth of study outlined below. They should have the opportunity to develop their understanding of geographical futures; inequality; interdependence (globalisation); process and change when exploring this theme.

Key Idea 7.1: Measuring social development

Key Questions	Depth of study
7.1.1 How is social development measured?	The use of gender and health as comparative measures of social development. The concept that there is a continuum of social development. The use of social development evidence to consider the dynamic nature of the 'development gap' *(for example, recent changes to birth rate and life expectancy).*

Key Idea 7.2: Contemporary issues

Key Questions	Depth of study
7.2.1 What challenges face social development in sub-Saharan Africa and South Asia?	Social, economic and political factors that influence changing birth rates and death rates in South Asia and sub-Saharan Africa. How population pyramids reflect population structure in these regions of the world. The causes and consequences of child labour. The challenges relating to primary education and especially the education of girls in sub-Saharan Africa* and South Asia*. How these issues are tackled at the local scale in **one** country in sub-Saharan Africa/Asia and also at the global scale *(for example, the use of international targets set by the United Nations).* The reasons for international refugee movement and asylum seekers from sub-Saharan Africa/Asia. How this issue is being tackled by national governments and international agreements *(for example, tackling migration issues in the Mediterranean).*
7.2.2 What are the health care issues in sub-Saharan Africa?	Reasons for high rates of infant mortality in sub-Saharan Africa. The challenges created by HIV and malaria in sub-Saharan Africa. How these issues are tackled at the local scale in **one** country in sub-Saharan Africa and at the global scale *(for example, the use of international targets set by the United Nations).* The concepts of top-down and bottom-up approaches to development. How progress is measured and what progress is being made.

***See Appendix C, on page 35, for list of countries in sub-Saharan Africa and South Asia that may be studied**

Theme 8: ENVIRONMENTAL CHALLENGES

Learners should be given the opportunity to develop their understanding of the conceptual framework that supports the depth of study outlined below. They should have the opportunity to develop their understanding of geographical futures; interconnectedness (between human and physical environments); interdependence (globalisation); process and change; and sustainability when exploring this theme.

Key Idea 8.1: Consumerism and its impact on the environment

Key questions	Depth of study
8.1.1 What are the impacts of increasing consumer choice on the global environment?	The concept of ecological footprint. The links between growing global interdependence, consumerism and ecosystem destruction in tropical rainforests and one other contrasting biome *(for example, demand for palm oil or bio-fuel and the impact of their development in tropical ecosystems).* How consumerism has impacts on the environments through changes to agri-business and transport *(such as food miles, sale of out-of-season fruit and vegetables)*. How consumerism has impacts on the environment through the disposal of waste, including the impact of e-waste on people and the environment.
8.1.2 How may climate change affect people and the environment and how can technology be used and people's lifestyles changed to reduce these impacts?	Short and long-term effects of climate change on people, economy and environment. Coverage must include effects in the UK and in **one** contrasting environment *(for example, Arctic or Small Island States).* Alternate geographical futures for these locations *(for example, changes in the frequency of extreme weather events and changing seasonal patterns).*The role of individuals and government in adopting new technologies and new lifestyles to reduce greenhouse emissions. Local, national and international responses to climate change.

Key Idea 8.2: Management of ecosystems

Key questions	Depth of study
8.2.1 How can damaged environments and natural habitats be managed and restored?	Environmental strategies to manage habitat and biodiversity in tropical rainforests and one contrasting ecosystem to include zoning within National Parks, creation of wildlife corridors and debt-for-nature swaps. Strategies to restore habitats that have been damaged by human activity to include wetland restoration. How tourism can be managed to reduce its negative impacts on the environment and water resources of **two** contrasting evironments to include tropical coastline/coral reefs. How the tourist industry may be made more sustainable in the future. The concepts of ecotourism, ethical tourism and responsible travel.

2.3 Unit 3

Fieldwork Enquiry

Non-examination assessment (NEA)
20% of qualification
40 marks (plus 4 marks for the accuracy of spelling, punctuation and grammar)

Unit 3 requires a written report from the learner, to include evidence of their understanding of the enquiry process and their independent ability to process/present data and complete extended writing. The report must be written in response to specific questions set by WJEC. These questions will vary in each cycle. They will be available to download from the secure area of the WJEC website in November of the year prior to the year of the award. Learners will be permitted to use a portfolio of fieldwork evidence, gathered throughout their GCSE, whilst responding to these questions. The reports must be written under a **high level** of control, for more detail of these controls please see pages 29-31 of the specification. The reports will be marked by WJEC.

In order to prepare for this report, learners are expected to undertake **two** fieldwork enquiries outside the classroom and school grounds, each in a **contrasting** environment:

- In one environment the focus should be on fieldwork methodology. The approach will be selected by WJEC from those listed in Table A on page 25.

- The second fieldwork experience should take place in a **contrasting** environment. This fieldwork enquiry must be underpinned by geography's conceptual framework. The approach will be selected by WJEC from those listed in Table B on pages 26-27.

Teachers will be notified at least two years in advance which two approaches should be taken by all centres in any given year. These approaches have been designed to allow centres a wide range of choice of environment in which they can conduct fieldwork. They should also allow centres to use familiar fieldwork locations that are known by them to be safe. **The sample assessment materials for Unit 3 illustrate a cycle in which 'transects' is the methodology selected from Table A and 'inequalities' is the geographical concept selected from Table B.**

Learners should have the opportunity to carry out all **six** of the stages of the enquiry process when conducting fieldwork. The stages of the enquiry process are described fully on page 23. It is recommended that learners spend about 18 guided learning hours preparing for and consolidating their understanding of their fieldwork experiences in addition to time spent conducting fieldwork. They should keep evidence of their fieldwork experiences, gathered over the length of their GCSE course, in a portfolio. Fieldwork activities should be conducted under limited levels of control, see pages 29-31 for more details of these controls. Learners will be allowed to use the evidence in their portfolio when addressing the questions set by WJEC in their fieldwork report.

Learners might prepare for their fieldwork enquiry by being given opportunities to:

- pose geographical questions
- research fieldwork methodologies
- consider sampling strategies
- design data collection sheets.

Learners might consolidate their understanding of fieldwork enquiry by being given opportunities to:

- process data
- present their findings
- analyse patterns and trends
- draw conclusions
- consider limitations of the evidence/evaluate their fieldwork.

Fieldwork enquiry skills that will be examined in Unit 3
Examples (in italics) are to aid understanding and suggest range, and these are not compulsory.

The enquiry process	**Individuals should learn how to**
1.1 What is the geographical enquiry process?	1.1 Pose questions about geographical processes/concepts that include questioning about spatial patterns and geographical processes/change. Test hypotheses.
1.2 How is evidence collected?	1.2 Design fieldwork data collection sheets. Select specific locations at which data can be collected. Establish control groups. Justify sample size and sampling technique, coverage to include sampling using random, systematic, opportunistic and/or stratified techniques. Use fieldwork equipment to obtain accurate and reliable results *(for example, the use of clinometer or quadrats).* Collect data using quantitative and qualitative techniques. Quantitative techniques should include those that measure: • flow *(for example, discharge, infiltration, traffic)* • scale *(for example, river width, pebble size, gradient)* • spatial pattern *(for example, retail land use, sediment sorting)* • temporal change *(for example, temperature, rainfall, pressure).* Qualitative techniques should include use of questionnaires, bi-polar techniques and annotation of photos/sketches. Use secondary sources of evidence to include satellite images, aerial and oblique photographs, large databases *(for example, National Statistics)* and GIS *(for example, Environment Agency).*
1.3 How can evidence be processed and presented?	1.3 Process evidence to include calculation of percentages and mean. Present evidence to include maps, graphs and diagrams. Reference secondary data sources accurately. For details of numerical and statistical skills, including specific graphical and cartographic representation techniques, see **Appendix A** pages 33-34.
1.4 How can evidence be analysed and how do patterns and trends evidenced by fieldwork relate to wider geographical knowledge and understanding?	1.4 Identify, analyse and interpret trends and patterns. Apply knowledge and understanding of broad geographical concepts and processes to specific evidence collected during the enquiry.
1.5 What conclusions may be drawn from fieldwork enquiries?	1.5 Synthesise findings to reach evidenced conclusions that relate to the initial aim of the enquiry. Appreciate that geography can be 'messy' i.e. that fieldwork does not always match typical or predicted outcomes.
1.6 What evaluative techniques should be applied to the enquiry process?	1.6 Identify the limitations of geographical evidence: accuracy, reliability and bias. Reflect critically on the strengths and limitations of both primary and secondary data, methods used, conclusions drawn and knowledge gained. Appreciate that stakeholders may have vested interests *(for example, where primary or secondary sources of data rely on opinion).*

Approaches to fieldwork

Unit 3 will assess different approaches to fieldwork in each examination series. In order to provide learners with a relevant fieldwork experience, WJEC will provide one methodological approach and a separate approach based on one conceptual framework for fieldwork at least two years in advance of each assessment. The full list of approaches is published in Table A on page 25 and Table B on pages 26-27 of the specification. Centres will be free to conduct each fieldwork enquiry in any environment but are reminded that learners should experience working in **contrasting** environments outside of the classroom and school grounds i.e. if a coastal environment is chosen from Table A then a contrasting environment should be chosen from Table B when conducting the second fieldwork enquiry.

Learners should be given the opportunity to explore physical and human processes and the interactions between them during their fieldwork experiences. They should be involved in the collection of primary physical and human data (but these requirements need not all be addressed in each piece of fieldwork).

Prior to each examination series, at least two years in advance of the assessment, WJEC will publish the **two** approaches that centres should take during fieldwork:

- **One** of the approaches in Table A will be selected. This approach to methodology will be assessed in Part A of the examination. Centres will be free to choose an appropriate example and environment for their fieldwork enquiry from column 2 of Table A.

- **One** of the approaches in Table B will be selected. The learners' understanding of how this concept may be investigated during a fieldwork enquiry will be assessed in Part B of the examination.

Each centre must provide a fieldwork statement to WJEC that details the fieldwork carried out by learners from the centre in each assessment cycle. Failure to provide a fieldwork statement will be treated as malpractice and/or maladministration by WJEC. Centres will be able to make their fieldwork statement by completing a form that will be available to download from the GCSE Geography subject page of the WJEC website. Further details of fieldwork arrangements may be found in Section 3.2 on pages 29-31.

Table A: Fieldwork methodologies

WJEC will select **one** methodological approach each year from the table below. The second column, in the table below, suggests a range of examples of fieldwork enquiries set in contrasting environments which may be used by centres and are for illustration only.

Methodological approach	**Possible examples of fieldwork enquiries in contrasting environments**
Use of transects	***Use of a transect across a feature to:***
	Assess quality of life or environmental quality across an urban area
	Analyse micro-climate across a large town or up a slope
	Determine patterns of flow and deposition across a river channel
	Analyse patterns of vegetation across a sand dune system or through woodland
	Analyse slope profiles and sediment sorting up a beach profile
Change over time	***Comparing primary data with secondary sources to analyse:***
	Changing patterns of retailing, comparing current retail patterns to historical data from a previous year
	Changing weather, comparing data collected over several days with data collected for the same period in a previous year
	Changing river/coastal landforms based on comparison of current evidence to historical evidence from maps/photos
	Changing land use over time in an urban/rural environment
Qualitative surveys	***Analysing perception of:***
	The value of distinctive river or coastal landscapes
	Environmental quality of urban/rural environments
	Perception studies, for example about flood risk or climate change
	Comparing visitor/local perceptions of a honeypot site
Geographical flows	***Analysing flows and patterns of movement:***
	Infiltration rates in various soils or interception rates in various vegetation types
	Analysis of commuter movements
	Discharge rates compared to rainfall or Longitudinal survey of downstream changes in a river
	Traffic or pedestrian flows, for example, relating pedestrian flows in a retail environment to parking provision in an urban area or identifying best route for a cycle path
	Analyse sediment size/shape as a result of longshore drift along a coastline

Table B: Approaches to fieldwork enquiry using conceptual frameworks

WJEC will select **one** conceptual framework each year from the table below. The second column, in the table below, suggests a range of examples of fieldwork enquiries set in contrasting environments which may be used by centres and are for illustration only.

Conceptual framework	**Possible examples of fieldwork enquiries in contrasting environments**
Place Applying understanding of uniqueness/identity.	Comparing and contrasting the features of two distinctive locations to identify the uniqueness of place: • the characteristics of coastal features in two locations • the characteristics of river features in two locations • the characteristics of an ecosystem in two locations • two villages or two urban environments • quality of life in two neighbourhoods.
Sphere of influence Applying understanding of sphere of influence/catchment and how it impacts on places.	Identifying the extent of sphere of influence/catchment area and analysing the positive or negative impacts of this on place(s): • sphere of influence of larger urban areas and their impacts on their hinterland. • positive and negative externalities of a major event (for example, County Show/cultural festival) or sporting venue • sphere of influence of a honeypot site and its impact(s) for example, analysing visitor pressure along a footpath • sphere of influence of a distinctive landscape feature and its impact(s) • river catchment and its impact on potential flood risk.
Cycles and flows Applying understanding of change and movement in relation to place.	Identifying patterns of movement (in either a human or physical context) and the reasons for, or effects of, these movements: • migration survey which focuses on push-pull factors and their impacts in either an urban or rural locations • diurnal flows within urban environments and the effects for example, on transport systems • study of commuter flows between an urban and neighbouring rural location • comparing river flows in contrasting river stages and/or over time • identifying seasonal change in a local ecosystem.
Mitigating risk Applying understanding of hazard perception/risk and analysing management strategies/future actions.	Identifying the nature of risk and human responses to it in one location: • coastal erosion/flood risk and management strategies • flood risk and river management strategies • urban/rural land use and its impact on infiltration/interception/flood risk • perceptions of climate change and possible local responses • environmental risk and its management, for example, location of a new wind farm or an investigation of air quality in an urban area.

Conceptual framework	**Possible examples of fieldwork enquiries in contrasting environments**
Sustainability Applying understanding of sustainable communities.	Assessing the extent to which a community can be made more sustainable: • impacts of a pedestrianisation scheme or park and ride scheme • the effectiveness of an existing or planned community (urban or rural) to meet requirements of Egan's wheel • choosing more sustainable ways to manage the journey to school, for example, the best route for a new cycle route to school • evaluating sustainable coastal or flood management strategies • evaluating possible sustainable uses of a brownfield site.
Inequality Applying understanding of inequality and associated concepts such as deprivation or equality of access to services.	Analysing patterns of inequality: • how positive and negative externalities impact on standard of living in urban or rural environments • comparing access to services in rural and urban communities within the hinterland of one large urban area • evaluating quality of life for a named socio-economic group (for example, young families) in one community • assessing quality of the urban environment and its impact on house prices across an urban transect • evaluating the success of an urban regeneration scheme in reducing deprivation.

3 ASSESSMENT

3.1 Assessment objectives and weightings

Below are the assessment objectives for this specification. Learners must:

AO1.1
Demonstrate knowledge of places, environments and processes at a variety of scales

AO1.2
Demonstrate understanding of places, environments, concepts and inter-relationships at a variety of scales.

AO2
Apply knowledge and understanding to interpret, analyse and evaluate geographical information and issues and to make judgements.

AO3
Select, adapt and use a variety of skills and techniques to investigate questions and issues and communicate findings.

The table below shows the weighting of each assessment objective for each unit and for the qualification as a whole.

	AO1.1	AO1.2	AO2	AO3	Overall
Unit 1	7.5%	10%	12.5%	10%	40%
Unit 2	7.5%	10%	12.5%	10%	40%
Unit 3	0	*5%*	*10%*	*5%*	*20%*
Overall weighting	**15%**	**25%**	**35%**	**25%**	**100%**

Figures in *italics* indicate the weighting that is reserved for the assessment of fieldwork.

For each series:

- the weighting for the assessment of mathematical and statistical skills will be at least 10%
- **Writing accurately** will be assessed in specified questions that require extended writing. Writing accurately takes into account the candidate's use of specialist language. It also takes into account the accuracy of the candidate's spelling, punctuation and grammar. The total weighting for writing accurately will be 5% of the sum of all marks available for assessment objectives AO1 to AO3 i.e. 10 marks overall.

3.2 Arrangements for non-examination assessment

The levels of control required for Unit 3, the fieldwork enquiry, are as follows.

Task taking
There are two phases of task taking.

Phase 1 Creation of a fieldwork portfolio: a **limited** level of control is specified.
Phase 2 Report writing: a **high** level of control is specified.

Phase 1 Creation of a fieldwork portfolio
This phase includes preparatory work prior to the fieldwork; the fieldwork experiences; the collection of primary data; secondary research; processing and presentation of data; the drawing of conclusions; and evaluation of the fieldwork experiences. During this period, learners should create a fieldwork portfolio of work.

Phase 1 has a **limited** level of control.

1. Each fieldwork enquiry must be supervised by the centre. Learners should not be encouraged to visit the site of the fieldwork independently to conduct additional research.
2. Phase 1 must be completed by October 31st in the year prior to the Award. At this point the learners' fieldwork portfolios must be collected in and kept in a secure environment. The portfolios should be returned to the learners during Phase 2 only at the point at which the reports are being written.

There is no time limit to Phase 1. This phase may take place at any time during the duration of the GCSE but must be complete by October 31st in the year prior to the Award. For example, in the first cycle, Phase 1 must be completed by October 31st 2017 prior to Award in 2018.

Learners should have the opportunity to carry out all **six** of the stages of the enquiry process when creating their fieldwork portfolio. The stages of the enquiry process are described fully on page 21 of the specification. WJEC recommends that the fieldwork enquiry is embedded within a scheme of work that provides context prior to each fieldwork enquiry.

Learners may conduct Phase 1 in groups. For example, learners may work in groups when designing common elements of questionnaires (additional, independent questions may also be added) and it is recommended that they work in groups during the collection of primary data in the field. Learners may collaborate when collating data that was collected by other groups of learners during the collection of primary or secondary data.

Phase 2 Report writing
WJEC will release the questions upon which the fieldwork report must be based on 1st November in the year prior to the Award. They will be available to download from the secure area of the WJEC website. Phase 2 extends from 1st November to 31st December in the year prior to the Award. For example, in the first cycle, Phase 2 extends from 1st November 2017 to 31st December 2017 prior to Award in 2018.

Learners must conduct Phase 2 under a **high** level of control.

Collaboration is not allowed. The candidates must work **independently** during this phase. They should be given access to the portfolio of work they created during Phase 1. They must process and present their findings independently. Candidates can complete the work in hand-written form or by using ICT.

The centre must ensure that all candidates respond to the fieldwork questions under **direct formal** supervision. During this phase of the NEA, teachers are **not** allowed to communicate with candidates to offer suggestions or solutions to geographical or fieldwork questions. Teachers can give help regarding technical issues, for example, the use of ICT or the amount of time remaining.

The maximum time allocated for report writing is **two hours and 30 minutes**. This may be allocated in one session or broken into shorter periods of time. The sample assessment materials for Unit 3 are divided into two sections to facilitate two separate sessions of high control. Once the reports have been written, they must be taken in and stored in a secure environment at the centre.

Candidates with specific learning requirements can be given extra time as defined in *Access Arrangements, Reasonable Adjustments and Special Consideration General and Vocational Qualifications.*

Task marking
The candidates' reports will be marked by WJEC. The reports must be submitted to the examiner during the first week of January in the year of the Award.

Centres do not need to submit the fieldwork portfolio to WJEC for marking. However, candidates will be entitled to remove a maximum of **five** A4 pages from their portfolio and submit these pages in support of their report **if they wish to do so**. For example, a candidate might wish to use these pages as evidence that they have accurately considered the limitations of their work. If submitted, these pages **will not** be directly marked by WJEC; they will be used to clarify statements made by the candidate in their report.

Authentication
Teachers will be required to confirm in writing that, to the best of their knowledge, all the work submitted for marking, with any exceptions stated, is the candidate's own unaided work. This will be achieved by signing the centre declaration sheet. This should be submitted at the same time as the fieldwork statement and sent to the examiner.

The fieldwork statement

Each centre must provide a fieldwork statement to WJEC that details the fieldwork carried out by learners from the centre in each assessment cycle. Failure to provide a fieldwork statement will be treated as malpractice and/or maladministration by WJEC.

Centres will be able to make their fieldwork statement by completing a form that will be available to download from the GCSE Geography subject page of the WJEC website. Centres will be able to use the form to:

(a) confirm that each learner has been provided with opportunities to undertake geographical fieldwork on **at least two occasions** and with respect to **at least two contrasting environments**, and

(b) in respect of each of those opportunities:

i. the date on which it was provided
ii. the location at which it was provided
iii. the environment to which it related
iv. the number of learners who participated, and
v. a description of how the tasks undertaken by learners met the requirements for geographical fieldwork detailed on pages 19-25 of the specification.

The fieldwork statement must be made to WJEC by 15 May of the year in which candidates receive their Award.

Submission of NEA

The following should be submitted to the examiner:

- the centre declaration sheet
- the fieldwork statement
- the candidates' reports.

The candidates' fieldwork portfolios should not be submitted. However, candidates are permitted to attach up to a maximum of **five** A4 pages from their portfolio to their report. These pages will not be marked by WJEC but will provide useful context for the examiner.

4 TECHNICAL INFORMATION

4.1 Making entries

This is a linear qualification in which all assessments must be taken at the end of the course. Assessment opportunities will be available in May/June series each year, until the end of the life of this specification. Summer 2018 will be the first assessment opportunity.

A qualification may be taken more than once. Candidates must resit all examination units in the same series.

Marks for NEA may be carried forward for the life of the specification. If a candidate resits an NEA unit (rather than carrying forward the previous NEA mark), it is the new mark that will count towards the overall grade, even if it is lower than a previous attempt.

Where a candidate has certificated on two or more previous occasions, the most recent NEA mark is carried forward, regardless of whether that mark is higher or lower (unless that mark is absent).

The entry code appears below.

Qualification title	Entry codes	
	English-medium	Welsh-medium
WJEC GCSE Geography	3110QS	3110CS

The current edition of our *Entry Procedures and Coding Information* gives up-to-date entry procedures.

4.2 Grading, awarding and reporting

GCSE qualifications are reported on an eight point scale from A*-G, where A* is the highest grade. Results not attaining the minimum standard for the award will be reported as U (unclassified).

APPENDIX A

Use of mathematics and statistics in geography

The list below outlines the range and extent of mathematical and statistical techniques required by WJEC GCSE Geography. *Examples (in italics) are to aid understanding and suggest range, and these are not compulsory.*

Types of skills that must be developed	Specific techniques required
Numerical and statistical skills	
1 Numerical skills 1.1 Demonstrate an understanding of number, area and scale and the quantitative relationships between units.	*Calculate distance from maps using the scale line and estimate area. Use quantitative statements when describing relationships revealed by tables of data or graphs.*
1.2 Design fieldwork data collection sheets and collect data with an understanding of accuracy, sample size and procedures, control groups and reliability.	Sample using random, systematic, opportunistic and/or stratified techniques. Use fieldwork equipment to obtain accurate and reliable results *(for example, the use of clinometer or quadrats).* Make sketch maps and field sketches to present and interpret data.
1.3 Understand and correctly use proportion and ratio, magnitude and frequency.	*For example, 1:200 flood; and logarithmic scales such as the Richter scale, in orders of magnitude*.
1.4 Draw informed conclusions from numerical data.	*Use tables of data to draw evidenced conclusions about spatial or temporal patterns (for example, from Office of National Statistics).*
2 Statistical skills 2.1 Use appropriate measures of central tendency, spread and cumulative frequency.	Median, mean, range, quartiles and inter-quartile range, mode and modal class.
2.2 Calculate percentage increase or decrease and understand the use of percentiles.	*For example, calculate percentage increase/decrease in population from a line graph or table of data. Draw a histogram of a normal/skewed distribution and use it to calculate percentiles.*
2.3 Describe relationships in bivariate data.	Sketch trend lines through scatter plots; draw estimated lines of best fit. Interpret evidence to make predictions. Interpolate and extrapolate trends on a line graph.
2.4 Identify weaknesses in selective statistical presentation of data.	Identify limitations *(for example, in the interpretation of a scatter graph).*

Types of skills that must be developed	Specific techniques required
Presentation and processing skills	
3.1 Cartographic skills 3.1 Use and understand gradient, contour and spot height on OS maps and other isoline maps.	Interpret and analyse atlas maps at different scales, topological maps, OS maps at 1:50,000 and 1:25,000 scales, isoline maps (*for example, weather charts, ocean bathymetric charts*), maps with proportional symbols, weather (synoptic) charts.
3.2 Interpret cross sections and transects.	Interpret cross sections *(for example, that show relief)* and transects *(for example, through the zones of a sand dune or across an eroded footpath).*
3.3 Use and understand coordinates, scale and distance.	Give 4 and 6 figure grid references. Measure distance accurately and estimate area from maps (including from O.S maps at a scale of 1:50,000 and 1:25,000).
3.4 Describe and interpret geo-spatial data presented in a GIS framework.	Describe location, distribution and other spatial patterns as shown on a screen shot from a GIS *(for example, Office of National Statistics or analysis of flood hazard using the interactive maps on the Environment Agency website).*
4 Graphical skills 4.1 Select and construct appropriate graphs and charts to present data, using appropriate scales.	Bar and line charts (to include climate charts and hydrographs), pie charts, pictograms, histograms with equal class intervals, star and radial graphs, kite diagrams, triangular graphs, dispersion graphs and scatter graphs.
4.2 Interpret and extract information from different types of graphs. Interpret different graphs to identify patterns and trends.	*See the techniques listed above for 4.1.*
4.3 Interpret population pyramids, choropleth maps and flow-line maps.	Interpret population pyramids *(for example, displaying both absolute and percentage figures)* Choropleth maps *(for example, those showing variations in economic development)* Flow-line maps with proportional arrows *(for example, showing migration, tourism or traffic flows).*

APPENDIX B

Global cities

Global cities (or world cities) are those cities which play an important role in the global economic system of finance and trade. As such, their existence is due to the processes of interdependence and globalisation that link the world together.

The top 20 in 2012 were:
London, New York City, Hong Kong, Paris, Singapore, Shanghai, Tokyo, Beijing, Sydney, Dubai, Chicago, Mumbai, Milan, Moscow, Sao Paulo, Frankfurt, Toronto, Los Angeles, Madrid, Mexico City.

There are 14 UK cities in the top 300 list of global cities. In rank order these are:
London, Manchester, Birmingham, Edinburgh, Bristol, Glasgow, Leeds, Belfast, Southampton, Newcastle, Liverpool, Cardiff, Aberdeen, Sheffield.

List of suitable NICs and LICs

Newly Industrialised Countries (NIC)

Newly industrialised countries (NICs) are middle income countries where the pace of economic growth outstrips that of other developing countries. NICs are characterised by: the relatively rapid growth of the manufacturing sector of the economy; rapid urban growth; strong trading relationships with other countries; and the operation of foreign owned multi-national companies (MNCs) within the country.

Learners should use one or more of the following NICs when following this specification:
Brazil, China, India, Indonesia, Malaysia, Mexico, Philippines, Russia, South Africa, South Korea, Thailand, Turkey, Vietnam.

Low Income Countries (LIC)

Low Income Countries are defined by the World Bank as having a GNI per capita income of $1,045 or less in 2013. In 2015 there are 31 LICs. WJEC suggests that learners use one or more of the following LICs when following this specification:

Afghanistan, Burkina Faso, Cambodia, Ethiopia, Gambia, Haiti, Malawi, Mali, Nepal, Niger, Rwanda, Tanzania, Uganda

APPENDIX C

List of suitable countries in South Asia and sub-Saharan Africa

Countries of South Asia

There are eight countries in the sub-continent of South Asia**.** Learners should use one or more of the following countries when following this specification:

Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka

Countries of sub-Saharan Africa

Africa may be broadly divided by the Sahara desert into two: North Africa and sub-Saharan Africa. WJEC suggests that learners use one or more of the following countries from sub-Saharan Africa when following this specification:

Botswana, Burkina Faso, Cameroon, Cote d'Ivoire, Ethiopia, Gambia, Kenya, Lesotho, Malawi, Mali, Mozambique, Namibia, Niger, Nigeria, Rwanda, Somalia, South Africa, Tanzania, Uganda, Zimbabwe.