GCSE Long Term Plan, Year 10 & 11

TOPIC **Key Idea** Detailed content including **key words,** [Suggested Skills] Assessments (Mock + in class) How the curriculum is made relevant to students in and around Maryport	**Links to KS3 / other GCSE content /other subjects**
START OF YEAR 10. **Unit timings**: (9½ weeks) Unit 1: HT1 to ½ HT2 (sept / oct / mid nov) **UNIT 1: THE CHANGING LANDSCAPES OF THE UK** **BROAD OVERVIEW OF THE UK'S PHYSICAL LANDSCAPE:** **Include a focus on West Cumbria rocks and landscapes – Lake District upland landscape + West Cumbria lowland landscape** **1.1 There are geological variations within the UK:** a. Characteristics and **distribution** of the UK's main rock types: **sedimentary** (chalk, sandstone) **igneous** (basalt, granite), **metamorphic** (schists, slates). [Geological maps] b. The role of geology and past **tectonic processes** in the development of **upland** (igneous and metamorphic rocks) and **lowland** (sedimentary rocks) **landscapes**. [Using simple geological cross sections to show the relationship between geology and **relief**] **1.2 A number of physical and human processes work together to create distinct UK landscapes** a. How distinctive upland and lowland landscapes result from the interaction of **physical processes** (**glacial erosion** and **deposition**, **weathering** and **climatological**, **post-glacial river** and **slope processes**). [Locating key physical features (uplands, **lowland basins**, rivers) on outline UK maps] b. How distinctive landscapes result from human activity (**agriculture**, forestry, settlement) over time. [Recognition of physical and human geography features on 1:25000 and 1:50000 OS maps]	Revise on rivers fieldwork location - Honister
OPTION 1 COASTAL LANDSCAPES AND PROCESSES: Include links to West Cumbria coastline e.g. St Bee's head; Grune point spit and coastal defences. **1.3 A variety of physical processes interact to shape coastal landscapes** a. The physical processes at work on the coast: **weathering** (**mechanical**, **chemical**, **biological**), **mass movement** (**sliding** and **slumping**), **erosion** (**abrasion**, **hydraulic action**, **attrition** and **solution**), **transportation** (**traction**, **saltation**, **suspension**, **solution** and **longshore drift**) and deposition. b. Influence of geological structure (**concordant/discordant**, **joints** and **faults**), rock type (hard/soft rock) and wave action (destructive and constructive waves) on landforms. [Use of BGS Geology maps (paper or online) to link coastal form to geology] c. How the UK's weather and climate (**seasonality**, **storm frequency, storm surge** and **prevailing winds**) affect rates of coastal erosion and retreat, and impact on landforms and landscape. [Using UK weather and climate data and calculation of mean rates of erosion using a multi-year data set] **1.4 Coastal erosion and deposition create distinctive landforms within the coastal landscape** a. The role of erosional processes in the development of landforms: headlands and bays, caves, arches, cliffs, stacks, **wave cut platforms**. [Recognition of coastal landforms on 1:25000 and 1:50000 OS maps] b. The role of depositional processes in the development of landforms: **bars**, beaches and spits. [as above] Suggested in class practice of 'examine' 8 mark question using a figure and then later in class mini assessment using another 8 mark question and figure. **1.5 Human activities can lead to changes in coastal landscapes which affect people and the environment** a. How human activities (**urbanisation**, agriculture and industry) have affected landscapes and the effects of coastal recession and flooding on people and the environment. [Use of 1:25000 and 1:50000 OS maps, and GIS, to investigate the impact of human intervention] b. The advantages and disadvantages of different coastal defences used on the coastline of the UK (hard engineering, sea walls, groynes and rip rap and soft engineering, **beach nourishment** and **managed retreat** and how they can lead to change in coastal landscapes. [as above] **1.6 located example: Distinctive coastal landscapes are the outcome of the interaction between physical and human processes** a. The significance of the location of one named distinctive coastal landscape within the UK (discordant, concordant, coastline of deposition, coastal retreat) including how it has been formed and the most influential factors in its change. [Recognition of coastal landforms on 1:25000 and 1:50000 OS maps]	
OPTION 2 RIVER LANDSCAPES AND PROCESSES: **Include links to River Ehen e.g. playing fields on flood plain and land use zoning.**	

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1.7 A variety of physical processes interact to shape river landscapes

a. The physical processes at work in the river landscape: **weathering** (mechanical, chemical and biological), **mass movement** (**sliding** and **slumping**), **erosion** (**abrasion**, **hydraulic action**, **attrition** and **solution**), **transport** (**traction**, **saltation**, **suspension** and **solution**) and deposition.

b. How river landscapes contrast between the upper courses, mid courses and lower courses of rivers and why channel shape (width, depth), **valley profile**, gradient, **discharge**, **velocity** and sediment size and shape change along the course of a named UK river. [Use of BGS Geology maps (paper or online) to link river long profiles to geology]

c. How the UK's weather (short-term events such as storms and droughts) and climate affect river processes and impact on landforms and landscapes. [Using UK weather and climate data]

1.8 Erosion and deposition interacting with geology create distinctive landforms in river landscapes

a. The role of erosion processes and the influence of geology in the development of landforms: **interlocking spurs**, waterfalls, gorges and river cliffs. [Recognition of river landforms on 1:25000 and 1:50000 OS maps]

b. The role of depositional processes in the formation of **flood plains**, levees and point bars.

c. The interaction of deposition and erosion processes in the development of landforms (**meanders**, oxbow lakes).

1.9 Human activities can lead to changes in river landscapes which affect people and the environment

a. How human activities and changes in land use (**urbanisation**, agriculture and industry) have affected river processes that impact on river landscapes; the physical and human causes and effects of river flooding. [Drawing simple storm **hydrographs** using rainfall and discharge data]

b. Advantages and disadvantages of different defences used on UK rivers (hard engineering– dams, reservoirs and **channelisation** and soft engineering– **flood plain zoning** and **washlands**) and how they can lead to change in river landscapes. [Use of 1:25000 and 1:50000 OS maps, and GIS, to investigate the impact of human intervention]

1.10 Located Example: Distinctive River landscapes are the outcome of the interaction between physical and human processes

a. The significance of the location of one named distinctive UK river landscape (upland/lowland), how it has been formed and the most influential factors in its change.

YEAR 10.

Unit timings: (9½ weeks) Unit 2: ½ HT2 + HT3 (mid nov to term 2 half term)

.UNIT 2: CHANGING CITIES

BROAD OVERVIEW OF URBANISATION PATTERNS AND PROCESSES:

4.1 Urbanisation is a global process

a. Contrasting trends in urbanisation over the last 50 years in different parts of the world (developed, emerging and developing countries).

b. How and why urbanisation has occurred at different times and rates in different parts of the world (developed, emerging and developing countries) and the effects.

4.2 The degree of urbanisation varies across the UK

a. Distribution of urban population in the UK and the location of its major urban centres.

b. Factors causing the **rate and degree of urbanisation** to differ between the regions of the UK. (links to development topic coming up – causes of uneven development.)

CASE STUDY OF A MAJOR UK CITY

4.3 The context of the chosen UK city influences its functions and structure

a. **Site**, **situation** and **connectivity** of the chosen UK city in a national (cultural and environmental), regional and global context.

b. Chosen UK city's structure (Central Business District (CBD), inner city, suburbs, urban-rural fringe) in terms of its **functions** and building age.

Link to Maryport structure – compare / contrast – Enquiry question at KS3?

4.4 The chosen UK city is being changed by movements of people, employment and services

a. The sequence of urbanisation, **suburbanisation**, **counter-urbanisation** and **re-urbanisation** processes and their distinctive characteristics for the chosen UK city. [Using satellite images to identify different **land use zones** in urban areas]

b. Causes of **national** and **international migration** and the impact on different parts of the chosen UK city (age structure, **ethnicity**, housing, services). [Using a combination of population pyramids, choropleth maps and GIS]

Extra time / focus to look at misconceptions / attitudes to international migration to give educated opinions to a contentious subject in the local area. **4.5 Globalisation and economic change create challenges for the chosen UK city that require long-term solutions** a. Key population characteristics of the chosen UK city's that is available from the **Census** and reasons for population growth or decline. [Using Census output area data for 2011] b. Causes of **deindustrialisation** (globalisation, **de-centralisation**, technological advances and developments in transport) and impacts on the chosen UK city. c. How economic change is increasing **inequality** in the city and the differences in **quality of life**. d. Recent changes in retailing and their impact on the chosen UK city: decline in the Central Business District (CBD), growth of edge- and out-of-town shopping and increasing popularity of internet shopping). e. The range of possible strategies aimed at making **urban living** more **sustainable** and improving quality of life (recycling, employment, education, health, transport, affordable and **energy-efficient housing**) for the chosen UK city. [Calculating the **ecological footprint** of people in the city, and comparing it to other locations]	
CASE STUDY OF A MAJOR CITY IN A DEVELOPING COUNTRY OR AN EMERGING COUNTRY **4.6 The context of the chosen developing country or emerging country city influences its functions and structure** a. **Site**, **situation** and **connectivity** of the chosen city in a national (cultural and environmental), regional and global context. b. The chosen city's structure (Central Business District (CBD), inner city, suburbs, urban-rural fringe) in terms of its **functions** and building age. **4.7 The character of the chosen developing country or emerging country city is influenced by its fast rate of growth** a. Reasons for past and present trends in population growth (**rates of natural increase**, **national** and **international migration**, **economic investment** and growth). [Use and interpretation of line graphs and calculating of rate of change/annual or decadal percentage growth] b. Causes of national and international migration and the impact on different parts of the chosen city (age structure, **ethnicity**, housing, services). [Using GIS/satellite images, historic images and maps to investigate **spatial growth**] c. How the growth of the chosen city is accompanied by increasing **inequality** (areas of extreme wealth versus **poverty**) and reasons for differences in **quality of life**. **4.8 Rapid growth, within the chosen developing country or emerging country city, results in a number of challenges that need to be managed** a. Effects resulting from the chosen city's rapid urbanisation: housing shortages, **squatter settlements, under-employment** employment, pollution and inadequate services. [Using quantitative and qualitative information to judge the scale of variations in quality of life] b. Advantages and disadvantages of both **bottom-up** and **top-down approaches** to solving the chosen city's problems and improving the quality of life or its people. c. The role of government policies in improving the quality of life (social, economic and environmental) within the chosen city. **In class mock end of HT3, 45 marks, unit 1 + most of unit 2**	
YEAR 10. **Unit timings**: (9½ weeks) Unit 3: HT4 + ½HT5 (Term 2 half term to mid may term 3) **UNIT 3: WEATHER HAZARDS AND CLIMATE CHANGE** **BROAD OVERVIEW OF WEATHER AND CLIMATE CHANGE:** **2.1 The atmosphere operates as a global system transferring heat and energy** a. The features of the **global atmospheric circulation**. b. How circulation cells and ocean currents transfer and redistribute heat energy across the Earth. **2.2 The global climate was different in the past and continues to change due to natural causes** a. How climate has changed in the past over different time scales: **glacial and interglacial periods** during the **Quaternary period.** b. Causes (**Milankovitch cycles**, solar variation, **volcanism**) and evidence (ice cores, pollen records, tree rings, historical sources) for natural climate change. **2.3 Global climate is now changing as a result of human activity**	

a. How human activities (industry, transport, energy, farming) produce greenhouse gases (carbon dioxide, methane) that cause the **enhanced greenhouse effect**. b. Negative effects that climate change is having on the environment and people (changing patterns of **crop yield**, rising sea levels and retreating glaciers). **2.4 The UK has a distinct climate which has changed over time** a. Climate of the UK today and changes over the last 1000 years. [Use and interpretation of line graphs/bar charts showing climate change] b. **Spatial variations** in temperature, prevailing wind and rainfall within the UK. c. The significance of the UK's geographic location in relation to its climate. Link to West Cumbria – why does it rain so much here?	
TROPICAL CYCLONES **2.5 Tropical cyclones are extreme weather events that develop under specific conditions and in certain locations** a. How the global circulation of the atmosphere leads to **tropical cyclones** (hurricanes and typhoons) in source areas and the sequence of their formation. [Use of GIS to track the movement of tropical cyclones] b. Characteristics, **frequency** and geographical distribution of tropical cyclones and how these change over time. **2.6 There are various impacts of and responses to natural hazards caused by tropical cyclones depending on a country's level of development** a. Reasons why tropical cyclones are natural weather hazards (high winds, intense rainfall, **storm surges**, coastal flooding and landslides). [Use of weather and storm surge data to calculate **Saffir-Simpson Scale /** magnitude] b. **Located examples**: Different **social, economic and environmental impacts** that tropical cyclones can have on a named developed and a named emerging or developing country. [Use of social media source, satellite images and socio-economic data to assess impact] c. **Located examples**: Different responses to tropical cyclones of individuals, organisations and governments in a named developed and a named emerging or developing country. [as above]	
DROUGHT **2.7 The causes of drought are complex with some locations more vulnerable than others** a. Characteristics of **arid** environments compared to the extreme weather conditions associated with **drought**. b. Different causes of the weather hazard of drought: **meteorological**, **hydrological**, and **human** (agricultural, dam building, deforestation). c. Why the global circulation makes some locations more **vulnerable** to drought as a natural hazard than others and how this changes over time. [Use and interpretation of graphs showing medium term rainfall trends] **2.8 The impacts of, and responses to drought vary depending on a country's level of development** a. Reasons why droughts are hazardous. b. **Located Examples:** How the impacts of drought on people and ecosystems can vary for a named developed and a named emerging or developing country [Use and interpretation of socio-economic data] c. **Located Examples**: Different responses to drought from individuals, organisations and governments in a named developed and a named emerging or developing country.	
YEAR 10 **Unit timings**: (9½ weeks) Unit 4: ½ of HT5 + HT6 (Mid may to end of term 3) **UNIT 4: ECOSYSTEMS, BIODIVERSITY AND MANAGEMENT** **BROAD OVERVIEW OF ECOSYSTEMS:** **3.1 Large-scale ecosystems are found in different parts of the world and are important** a. Distributions and characteristics of the world's large-scale ecosystems (tropical, **temperate** and **boreal** forests, tropical and temperate grasslands, deserts and **tundra**). [Use of world maps to show the location of global **biomes**] b. The role of climate and **local factors** (soils and altitude) in influencing the distribution of different large-scale ecosystems. [Comparing climate graphs for different biomes] **3.2 The biosphere is a vital system** a. How the **biosphere** provides resources for people (food, medicine, building materials and fuel resources) but is also increasingly **exploited commercially** for energy, water and **mineral resources**. **3.3 The UK has its own variety of distinctive ecosystems that it relies on**	

a. Distribution and characteristics of the UK's main **terrestrial ecosystems** (moorlands, heaths, woodlands, wetlands). [Interpret GIS maps] b. Importance of **marine ecosystems** to the UK as a resource and how human activities are degrading them.	
TROPICAL RAINFORESTS **3.4 Tropical rainforests show a range of distinguishing features** a. **Biotic** and **abiotic** characteristics of the tropical rainforest ecosystem (climate, soils, water, plants, animals and humans). b. The interdependence of biotic and abiotic characteristics (climate, soils, water, plants, animals and humans) and the **nutrient cycle** (**Gersmehl model**). [Use and interpretation of nutrient cycle diagrams and food webs diagrams] c. Why rainforests have very high **biodiversity** and how plants (**stratified** layers, **buttress roots**, drip tips) and animals (strong limbs, modified wings and beaks, camouflage) are adapted to that environment. **3.5 Tropical rainforest ecosystems provide a range of goods and services some of which are under threat** a. Examples of goods and services provided by tropical rainforest ecosystems (food stuffs, medicines, timber and recreation). b. How climate change presents a threat to the structure, **functioning** and biodiversity of tropical rainforests. c. Economic and social causes of deforestation (conversion to agriculture, resource extraction, population pressure). [Use and interpretation of line graphs showing the range of future global population projections, and population in relation to likely available resource] d**. Located Example**: Political and economic factors (**governance**, **commodity value** and **ecotourism**) that have contributed to the **sustainable management** of a rainforest in a named region..	
DECIDUOUS WOODLANDS **3.6 Deciduous woodlands show a range of distinguishing features** a. Abiotic and biotic characteristics of the deciduous woodland ecosystem (climate, soil, water, plants, animals and humans). b. The interdependence of biotic and abiotic characteristics (climate, soil, water, plants, animals and humans) and the **nutrient cycle (Gersmehl model)** (**food web**) c. Why deciduous woodlands have moderate biodiversity and how plants (leaf size and structure, water conservation in winter) and animals (**migration**, **hibernation** and food storage) are adapted to that environment. **3.7 Deciduous woodlands ecosystems provide a range of goods and services some of which are under threat** a. Examples of goods and services provided by deciduous woodlands ecosystems (timber, fuel, conservation and recreation). b. How climate change presents threats to both the structure, **function** and biodiversity of the deciduous woodland ecosystem. c. Economic and social causes of deforestation (urbanisation and population growth, **timber extraction** and agricultural change). [Use of GIS to identify the pattern of forest loss] d. **Located Example**: Different approaches to the sustainable use and management of deciduous woodlands in a named region. **(water conservation)** Consider doing local case study – Borrowdale woodlands	
START OF YEAR 11 Unit timings: (2½ / 3 weeks) First ½ of HT1 **GEOGRAPHICAL INVESTIGATIONS: FIELDWORK** **7a INVESTIGATING PHYSICAL ENVIRONMENTS: RIVERS** **Aim – investigation of change in a river channel** 1. **Pre-fieldwork and planning**: Understanding the kinds of **enquiry questions** capable of being investigated through fieldwork and an opportunity to develop a question(s) based on their location and the task. An understanding of the geographical enquiry process appropriate to investigate these. [**Map skills** -interpreting OS maps / digital maps / **GIS** to investigate the fieldwork location – including identifying physical features and landforms and human features - patterns of vegetation, land use and footpaths / roads; practice scale, direction; grid references; gradient, contours, spot height (interpret cross sections and transects); annotating maps; spatial awareness – identifying the relative locations and relationships between features. **Investigative skills**: identify questions or issues for investigation, Develop a hypothesis and/or key questions Consider health and safety and undertake **risk assessment** Consider appropriate sampling procedures (**systematic** vs **random** vs **stratified**) and sample size Select data collection methods and equipment to ensure accuracy and reliability,	ENRICHMENT: BUTTERMERE FIELDWORK Consider teaching 1.1b; 1.2; 1.10 and 8.3a on fieldwork day.

Design fieldwork data collection sheets for measurements and observation
Describe and interpret geo-spatial data presented in a GIS framework (e.g. analysis of flood hazard using the interactive maps on the Environment Agency website)]

2. **Fieldwork methods** – Understanding of the range of different **primary data** collection techniques and methods used in fieldwork, including observation, sampling strategies and recording techniques.
Fieldwork data collection must include at least:
● one **quantitative fieldwork method** to measure **river discharge**
● one **qualitative fieldwork method** to record landforms that make up the river landscape. - **field sketch**
(Consider also collecting bedload size separately to analyse using interquartile range in the classroom)
Secondary data sources)
● A flood risk map e.g. Environment Agency **flood risk map**.
● One other **secondary data source** e.g OS map / geology map / Environment Agency gauging stations from GaugeMap: www.gaugemap.co.uk.

[Draw, label, annotate, understand and interpret sketch maps.

Collect data with an understanding of **accuracy**, sample size and procedures, control groups and **reliability**]

Human interaction: students must develop their understanding of the implications of river processes for people living in the **catchment area**. (flooding downstream)

3. Data Presentation – Processing and presenting data in various ways including maps, **GIS**, graphs and diagrams (hand drawn and computer generated)
[Select and construct appropriate graphs and charts to present data, using appropriate scales (including use of ICT to manage, collate, process and present information and use of hand drawn graphical skills) e.g bar charts, pie charts, pictograms, line charts, histograms with equal class intervals; flow lines; proportional circles.
Statistical skills: consider using bedload size to - use appropriate measures of central tendency, spread and cumulative frequency (median, mean, range, quartiles and inter-quartile range, mode and modal class) lines of best fit, be able to identify weaknesses in selective statistical presentation of data]

4. **Analysing and explaining data** collected in the field using knowledge of relevant geographical case studies and theories. (1- General pattern (could you use statistics), 2 - back it up with data, 3 - any exceptions to the rule and then 4 - explain why - link to geography theory)
[Interpret and extract information from different types of graphs and charts
Investigative skills: write descriptively, analytically and critically about findings]

5. Drawing evidenced **conclusions** and summaries from fieldwork transcripts and data. What did the investigation prove / disprove; how accurately does the data support the geographical theories? What are the reasons for the anomalies? **[Investigative skills:** develop extended written arguments, drawing well evidenced and informed conclusions from data]

6, **Evaluation** – reflecting critically on fieldwork data, methods used, conclusions drawn and knowledge gained. Reference to the **accuracy**, validity and the **reliability** of the conclusions. [Appraisal and review of data and information, to see if these are accurate, suitable for the purpose, or misleading and unreliable]

HT1 In class assessment rivers fieldwork + unit 4 Changing Cities 45 min

YEAR 11 Unit timings: (9½ weeks) Unit 5: ½ of HT1 + most of HT2 (end of September + October + November to 1st week in December)

UNIT 5: GLOBAL DEVELOPMENT

BROAD OVERVIEW OF GLOBAL DEVELOPMENT:

5.1 Definitions of development vary as do attempts to measure it

a. Contrasting ways of defining development, using economic criteria and broader social and political measures.

b. Different factors contribute to the human development of a country: economic, social, technological, cultural, as well as **food and water security**.

c. How development is measured in different ways: **Gross Domestic Product (GDP) per capita**, the **Human Development Index**, **measures of inequality** and **indices of political corruption**. [Comparing the relative ranking of countries using **single versus composite** development **measures**]

5.2 The level of development varies globally

a. Global pattern of development and its unevenness between and within countries, including the UK. [Interpreting choropleth maps]

b. Factors (physical, historic and economic) that have led to **spatial variations in the level of development** globally and within the UK. Link to Cumbria – why has it not developed as fast as the south-east.

5.3 Uneven global development has had a range of consequences

a. Impact of uneven development on the quality of life in different parts of the world: access to housing, health, education, employment, technology, and food and water security.

5.4 A range of strategies has been used to try to address uneven development a. The range of international strategies (**international aid** and **inter-governmental agreements**) that attempt to reduce uneven development. b. Difference between **top-down** (government or **transnational corporation (TNC)** led) and **bottom-up development projects** (**community led**). Their advantages and limitations in the promotion of development	
CASE STUDY OF DEVELOPMENT IN A DEVELOPING COUNTRY OR AN EMERGING COUNTRY **5.5 The level of development of the chosen developing or emerging country is influenced by its location and context in the world** a. Location and position of the chosen country in its region and globally. b. Broad political, social, cultural and environmental context of the chosen country in its region and globally. c. Unevenness of development within the chosen country (**core and periphery**) and reasons why development does not take place at the same rate across all regions. [Using socio-economic data to calculate difference from the mean, for core and periphery regions] **5.6 The interactions of economic, social and demographic processes influence the development of the chosen developing or emerging country** a. Positive and negative impacts of changes that have occurred in the **sectors** (**primary**, **secondary**, **tertiary** and **quaternary**) of the chosen country's economy. [Using numerical economic data to profile the chosen country] b. Characteristics of **international trade** and aid and the chosen country's involvement in both. [Using proportional flow line maps to visualize trade patterns and flows] c. Changing balance between **public investment** (by government) and **private investment** (by TNCs and smaller businesses) for the chosen country. d. Changes in population structure and life expectancy that have occurred in the last 30 years in the chosen country. [Interpreting **population pyramids**] e. Changing social factors (increased inequality, growing **middle class** and improved education) in the chosen country. **5.7 Changing geopolitics and technology impact on the chosen developing or emerging country** a. How **geopolitical relationships** with other countries affect the chosen country's development: **foreign policy**, defence, **military pacts**, **territorial disputes**. b. How technology and connectivity support development in different parts of the chosen country and for different groups of people. **5.8 There are positive and negative impacts of rapid development for the people and environment of the chosen developing or emerging country** a. Positive and negative social, economic and environmental impacts of rapid development for the chosen country and its people. b. How the chosen country's government and people are managing the impacts of its rapid development to improve quality of life and its **global status**.	
YEAR 11 Unit timings: (9½ weeks) Unit 6: last week or 2 of HT2 + first ½ of HT3 (to beginning of March) **UNIT 6: RESOURCE MANAGEMENT** **BROAD OVERVIEW OF NATURAL RESOURCES (WATER, FOOD AND ENERGY)** **6.1 A natural resource is any feature or part of the environment that can be used to meet human needs** a. Natural resources can be defined and classified in different ways (**biotic**, **abiotic**, renewable and non-renewable). b. Ways in which people exploit environments in order to obtain water, food and energy (extraction of **fossil fuels**, fishing, farming and deforestation). c. How environments are changed by this exploitation (reduced **biodiversity**, **soil erosion** and reduced water and air quality). **6.2 The patterns of the distribution and consumption of natural resources varies on a global and a national scale** a. Global and UK variety and distribution of natural resources (soil and agriculture, forestry, fossil fuels, water supply, rock and minerals). [Use and interpretation of UK and world maps showing the distribution of resources] b. Global patterns of usage and consumption of food, energy and water. [Using different choropleth maps and data visualisations such as Gapminder.] **HT2 mocks, Unit 3 + 4 + 5, 90 mins**	
OPTIONAL SUBTOPIC: WATER RESOURCE MANAGEMENT	

Links to Weather Hazards and drought affecting water scarcity as well as responses **6.8 The supply of fresh water supply varies globally** a. Global distribution of **fresh water**. b. How the availability of fresh water varies on a global, national and local scale. c. Why some parts of the world have a **water surplus** or a **water deficit**. [Use and interpretation of UK and world maps showing the distribution of freshwater resources supply and demand] d. How and why the supply and demand for water has changed in the past 50 years due to **human intervention**. [Use and interpretation of line graphs showing the range of future **global population projections**, and population in relation to likely available water resources] **6.9 There are differences between the water consumption patterns of developing countries and developed countries** a. The proportion of water used by agriculture, industry and **domestic** in developed countries and emerging or developing countries. b. Why there are differences in water usage between developed countries and emerging or developing countries. **6.10 Countries at different levels of development have water supply problems** a. Why the UK has water supply problems (imbalances of the supply and demand for rainfall, **seasonal imbalances** and an **ageing infrastructure**: sewage and water pipes). b. Why emerging or developing countries have water supply problems (access to only **untreated water**, pollution of **water courses** and low annual rainfall). **6.11 Meeting the demands for water resources could involve technology and interventions by different interest groups** a. How attitudes to the exploitation and consumption of water resources vary with different **stakeholders** (individuals, organisations and governments). [Use and interpretation of UK and World relative **water stress** maps.] b. How technology (**desalination**) can resolve water resource shortages. **6.12 Management and sustainable use of water resources are required at a range of spatial scales from local to international** a. Why water resources require **sustainable management**. b. Different views held by individuals, organisations and governments on the management and **sustainable use of water resources**. c. How one developed country and one emerging or developing country have attempted to manage their water resources in a sustainable way.	
YEAR 11 Unit timings: (2½/3 weeks) last 3 weeks of HT4: **7B INVESTIGATING HUMAN ENVIRONMENTS (CENTAL/ INNER URBAN) OR RURAL SETTLEMENTS.** **Potential UK city fieldwork to link to Changing Cities GCSE topic above** **Aim = investigating change in central/inner urban area(s)** 1. **Pre-fieldwork and planning**: Understanding the kinds of **enquiry question**s capable of being investigated through fieldwork in urban environments and an opportunity to develop a question(s) based on their location and the task. An understanding of the geographical enquiry process appropriate to investigate these. **Secondary data sources** ● **Census data** e.g., Office for National Statistics (ONS) website ● one other [**Map skills** -interpreting OS maps / digital maps / **GIS** to investigate the fieldwork location – including identifying physical features and human features - practice scale, direction; grid references; gradient, contours, spot height; annotating maps; spatial awareness – identifying the relative locations and relationships between features. **Investigative skills**: identify questions or issues for investigation, Develop a hypothesis and/or key questions Consider health and safety and undertake **risk assessment** Consider appropriate sampling procedures (**systematic** vs **random** vs **stratified**) and sample size Select data collection methods and equipment to ensure accuracy and reliability, Design fieldwork data collection sheets for measurements and observation Describe and interpret geo-spatial data presented in a GIS framework (e.g. Census data)] 2. **Fieldwork methods** – Understanding of the range of different **primary data** collection techniques and methods used in fieldwork, including observation, sampling strategies (**random**, **systematic** and **stratified**) and recording techniques. Fieldwork data collection must include at least:	**ENRICHMENT: FIELDWORK MARYPORT**

● one **qualitative fieldwork method** to record the quality of the urban environment (field sketch, questionnaire on people's views) ● one **quantitative fieldwork method** to measure **land use function** [Draw, label, annotate, understand and interpret sketch maps. Collect data with an understanding of accuracy, sample size and procedures, control groups and reliability.] **Physical interaction**: students must develop their understanding of the interaction between physical landscape features, the central/inner urban area and residents and visitors. (Original site on river and high point for defence) 3. Data Presentation – Processing and presenting data in various ways including maps, GIS, graphs and diagrams (hand drawn and computer generated) [select and construct appropriate graphs and charts to present data, using appropriate scales (including use of ICT to manage, collate, process and present information and use of hand drawn graphical skills e.g bar charts, pie charts, pictograms, line charts, histograms with equal class intervals; flow lines, proportional circles. **Statistical skills**: consider using bedload size to show use appropriate measures of central tendency, spread and cumulative frequency (median, mean, range, quartiles and inter-quartile range, mode and modal class) lines of best fit be able to identify weaknesses in selective statistical presentation of data] 4. Analysing and explaining data collected in the field using knowledge of relevant geographical case studies and theories. [Interpret and extract information from different types of graphs and charts. **Investigative skills**: write descriptively, analytically and critically about findings] 5. Drawing evidenced conclusions and summaries from fieldwork transcripts and data. [**Investigative skills:** develop extended written arguments, drawing well evidenced and informed conclusions from data] 6, Evaluation – reflecting critically on fieldwork data, methods used, conclusions drawn and knowledge gained. Comments on the **accuracy**, validity and the **reliability** of the conclusions [appraisal and review of data and information, to see if these are accurate, suitable for the purpose, or misleading and unreliable.] **OR RURAL** **Aim = investigating change in rural settlements.** Fieldwork data collection must include at least: ● one qualitative fieldwork method to record the views of people on the quality of the rural environment ● one quantitative fieldwork method to measure flows of people within a rural settlement. The use of at least two different secondary sources of data, including: ● Census data e.g., Office for National Statistics (ONS) Neighbourhood Statistics – neighbourhood summary report ● one other chosen by the centre. **Final mocks: Paper 1: 60 mins unit 5 + 6; Paper 2: 60 mins rivers + human fieldwork + some of development**	
YEAR 11 Unit timings: (3 weeks) HT5 Include a practice UK challenges paper with one of the UK Challenges + Human Fieldwork (42 mins) **GEOGRAPHICAL INVESTIGATIONS: UK CHALLENGES** **8.1 The UK's resource consumption and environmental sustainability challenge** a. Changes in the UK's population in the next 50 years and implications on **resource consumption**. b. Pressures of growing populations on the UK's ecosystems. c. Range of national **sustainable transport** options for the UK.	Lots of links to previous content – see the first slide of the lesson slides.
8.2 The UK settlement, population and economic challenges a. The '**two-speed economy**' and options for bridging the gap between south east and the rest of the UK. b. Costs and benefits of **greenfield** development and the **regeneration** of **brownfield sites.** c. UK **net migration** statistics and their **reliability** and values and attitudes of different stakeholders towards migration.	
8.3 The UK's landscape challenges a. Approaches to **conservation** and development of UK National Parks (**environmental sustainability**) link to conflicts in the Lake District National Park b. Approaches to managing river and coastal UK flood risk.	Consider teaching 8.3a on rivers fieldwork day
8.4 The UK's climate change challenges	

a. Uncertainties about how global **climate change** will impact on the UK's future climate. b. Impacts of climate change on people and landscapes in UK c. Range of responses to climate change in the UK at a local and national scale.	

GCSE Long Term Plan, Year 10 & 11

Mathematics and Statistics Skills

Cartographic skills:

● use and understand gradient, contour and spot height on OS maps and other isoline maps (e.g. weather charts, ocean bathymetric charts)

● interpret cross sections and transects

● use and understand coordinates, scale and distance

● describe and interpret geo-spatial data presented in a GIS framework framework (e.g. analysis of flood hazard using the interactive maps on the Environment Agency website)

Graphical skills:

● select and construct appropriate graphs and charts to present data, using appropriate scales and including bar charts, pie charts, pictograms, line charts, histograms with equal class intervals

● interpret and extract information from different types of graphs and charts including any of the above and others relevant to the topic (e.g. triangular graphs, radial graphs, wind rose diagrams, proportional symbols)

● interpret population pyramids, choropleth maps and flow-line maps

Numerical skills:

● demonstrate an understanding of number, area and scale and the quantitative relationships between units

● design fieldwork data collection sheets and collect data with an understanding of accuracy, sample size and procedures, control groups and reliability

● understand and correctly use proportion and ratio, magnitude, frequency (e.g. 1:200 flood events) and logarithmic scales

● draw informed conclusions from numerical data

Statistical skills:

● use appropriate measures of central tendency, spread and cumulative frequency (median, mean, range, quartiles and inter-quartile range, mode and modal class)

● calculate percentage increase or decrease and understand the use of percentiles

● describe relationships in bivariate data: sketch trend lines through scatter plots; draw estimated lines of best fit; make predictions; interpolate and extrapolate trends

● be able to identify weaknesses in selective statistical presentation of data