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**Student Learning Reflection & Personalised Learning Checklist – GCSE Geography**

**Paper 1:**

**Hazardous Earth**

**Development Dynamics**

**Challenges of an Urbanising World**

**Hazardous Earth paper 1**

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| **Key Idea** | **I know/ understand…** | RAG |
| *The world’s climate system* | | |
| Global Atmospheric Circulation | What global atmospheric circulation is. |  |
| How atmospheric circulation leads to high and low pressure belts. |  |
| How ocean currents transfer heat around the Earth. |  |
| How high and low pressure belts lead to arid (high) and high rainfall (low) areas. |  |
| Past climate change and natural causes | That climate has changed through the Quaternary period. |  |
| What the natural causes of climate change are and how they explain past climate change events:   * Asteroid collisions * Orbital changes * Volcanic activity * Variations in solar output (sunspots) |  |
| The evidence we can use for natural climate change and how we can use this:   * Ice cores * Tree rings * Historical sources e.g. poems/ diaries |  |
| Global climate change and human activity | The natural greenhouse effect. |  |
| The enhanced greenhouse effect:   * Human activities (e.g. industry, transport, energy, farming) that can produce greenhouse gases such as carbon dioxide and methane. |  |
| How the enhanced greenhouse effect leads to global warming. |  |
| The evidence we have for how human activity is causing climate change:   * Sea level rise and warming oceans * Global temperature rise * Declining Arctic ice * Increased extreme weather events |  |
| Consequences of climate change on people. |  |
| Projections for future climate change. |  |
| Reasons why these projections are uncertain. |  |
| *Extreme weather events – tropical cyclones* | | |
| Cause of tropical cyclones | How a tropical cyclone develops and the conditions needed for this (pressure, rotation and structure). |  |
| Where tropical cyclones are found – their global distribution. |  |
| The different names used (cyclones, typhoons and hurricanes) and where. |  |
| Why some tropical cyclones intensify. |  |
| Why tropical cyclones dissipate. |  |
| The impacts of tropical cyclones | The physical hazards of tropical cyclones:   * High winds * Intense rainfall * Storm surges * Coastal flooding * Landslides |  |
| The impacts of these hazards on people. |  |
| The impacts of these hazards on the environment. |  |
| Why some countries are more vulnerable than others to the impacts:   * Socially * Physically * Economically |  |
| Preparation and responses to tropical cyclones | Ways in which countries can prepare for and respond to tropical cyclones, including:   * Weather forecasting * Satellite technology * Warning and evacuation * Storm-surge defences |  |
| **LOCATED EXAMPLE (1)**  **Developed country: Hurricane Sandy, USA**   * When did this happen? * What were the impacts? * How did they prepare for the tropical cyclone? * How did they respond to the tropical cyclone? * Were these methods effective? |  |
| **LOCATED EXAMPLE (2)**  **Emerging country: Typhoon Haiyan, Philippines**   * When did this happen? * What were the impacts? * How did they prepare for the tropical cyclone? * How did they respond to the tropical cyclone? * Were these methods effective? |  |
| *Tectonic hazards – earthquakes and volcanoes* | | |
| Earth’s structure | The layers of the Earth:  For each layer:   * Temperature * Density * Composition   Physical state   1. Core 2. Mantle (including the asthenosphere) 3. Crust |  |
| How convection currents are generated |  |
| Plate boundaries and hazards | Distribution and characteristics of **conservative** plate boundaries |  |
| Distribution and characteristics of **convergent** plate boundaries. |  |
| Distribution and characteristics of **divergent** plate boundaries. |  |
| Distribution and characteristics of **hotspots.** |  |
| Which plate boundaries volcanoes and earthquakes are found at. |  |
| Composite volcanoes:   * Causes of and locations * Magma type/ lava flows * Explosivity |  |
| Shield volcanoes   * Causes of and locations * Magma type/ lava flows * Explosivity |  |
| Causes of earthquakes |  |
| Causes of tsunami |  |
| Impacts and management of tectonic hazards | **LOCATED EXAMPLE (3)**  **Developed country: Japan (2011)**  Impacts   * Primary impacts on people and property * Secondary impacts on people and property   Management   * Short-term relief * Long-term planning, preparation and prediction |  |
| **LOCATED EXAMPLE (4)**  **Emerging country: Haiti (2010)**  Impacts   * Primary impacts on people and property * Secondary impacts on people and property   Management   * Short-term relief * Long-term planning, preparation and prediction |  |

**Development Dynamics paper 1**

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| **Key Idea** | **I know/ understand…** | RAG |
| *Global inequality* | | |
| Measuring development | Countries are classified into three levels of development: developing, emerging and developed. |  |
| Different ways to define development:   * Economic * Social * Political |  |
| Different measures of development, including:   * GDP per capita * HDI * Measures of inequality * Indices of political corruption |  |
| Differences in demographic data within countries of different levels of development:   * Fertility rates * Death rates * Population structures * Maternal mortality rates * Infant mortality rates |  |
| Global inequality in development | Causes and consequences of global inequality:   * Social – education, health * Historical – colonialism, neo-colonialism * Environmental – climate, topography * Economic & political – systems of governance, international relations |  |
| What Rostow’s modernisation theory is. |  |
| What Frank’s dependency theory is. |  |
| How these can both be used to explain how and why countries develop over time. |  |
| Approaches to development | What globalisation is. |  |
| What TNC stands for. |  |
| Why globalisation is increasing. |  |
| Why some countries have benefitted more than others from this. |  |
| Characteristics of a top-down strategy – Sardar Sarovar Dam |  |
| Characteristics of a bottom-up strategy - Biogas |  |
| Advantages and disadvantages of different approaches to development:   * NGO led intermediate technology * IGO funded large infrastructure * Investment by TNCs |  |
| *CASE STUDY: Development of one emerging country – India* | | |
| India’s location and context | Where is India located? |  |
| Why India’s location is significant (nationally, regionally and globally) related to its site, situation and connectivity. |  |
| The background of India – political, social, cultural and environmental. |  |
| The role of globalisation | How India’s economy has changed since 1990. Including trends in:   * GDP * Per capita GNI * Changing importance of economic sectors * Imports and exports * Type and origin of FDI |  |
| How globalisation and government policy has helped increase development. |  |
| Impacts of economic growth | How development has:   * Contributed to demographic (population) change * Caused urbanisation * Created different regions of different socio-economic characteristics. |  |
| Positive and negative impacts of economic development and globalisation on different age and gender groups. |  |
| How development has had an impact on India’s environment:   * Air, water, land pollution * Greenhouse gases |  |
| International role of India | What geopolitical means. |  |
| How India’s global influence is changing. |  |
| Costs and benefits of foreign investment (TNCs) in India. |  |

**Challenges of an Urbanising World paper 1**

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| **Key Idea** | **I know/ understand…** | RAG |
| *Urban change* | | |
| Global urbanisation trends | What urbanisation is. |  |
| How urbanisation has changed since 1980 and future projections. |  |
| Where urbanisation is taking place most. |  |
| What a megacity is. |  |
| The change in the global distribution of megacities since 1950. |  |
| What urban primacy (primate city) is and the influence of this. |  |
| Reasons for urbanisation | Push and pull factors leading to rural-urban migration. |  |
| Why cities in developing countries are growing. |  |
| What formal and informal employment are. |  |
| Which type of country most informal employment is found (developed, developing or emerging). |  |
| The four economic sectors and the countries they are found in:   * Primary * Secondary * Tertiary * Quaternary |  |
| What the working conditions are like in developing countries. |  |
| Cities change over time | How urban population changes over time through the cycle of urbanisation:   * Urbanisation * Suburbanisation * De-industrialisation * Counter-urbanisation * Regeneration |  |
| The different urban land use zones:   * Central business district (CBD) * Inner city * Suburbs * Rural-urban fringe |  |
| Which of these land use zones are dominated by commercial, industrial and residential land use. |  |
| Factors that influence land-use type including:  Accessibility, availability, cost, planning regulations. |  |
| *CASE STUDY: Why does quality of life vary in MUMBAI?* | | |
| The location and context of Mumbai | Where Mumbai is located. |  |
| Why Mumbai’s location is significant related to its site, situation and connectivity. |  |
| The structure of Mumbai’s land use, including:   * Where is the CBD, the inner city, suburbs and rural-urban fringe? * Where are the oldest buildings? Where are the newest? |  |
| Growth of Mumbai | Reasons for population growth in Mumbai. |  |
| How this population growth has led to changes in land use in the city. |  |
| Opportunities and challenges for people in Mumbai | Opportunities for people living in Mumbai (including access to resources and employment). |  |
| Challenges for people in Mumbai (including housing shortages, slums, water supply, waste disposal, employment, services and traffic). |  |
| Reasons for the differences in quality of life within Mumbai. |  |
| Strategies to improve quality of life in Mumbai | **TOP-DOWN STRATEGY**  One example of a top-down initiative that is trying to improve Mumbai and make it more sustainable: **Vision Mumbai** |  |
| Advantages and disadvantages of Vision Mumbai. |  |
| **BOTTOM-UP STRATEGY**  One example of a bottom-up initiative that is trying to improve Mumbai and make it more sustainable: **LSS charity** |  |
| Advantages and disadvantages of LSS. |  |

**Paper 2:**

**The UK Physical Landscape**

**The UK Human Landscape**

**Geographical Investigations (Unseen fieldwork)**

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| **Key Idea** | **I know/ understand…** |  |
| ***The UK’s physical landscape*** | | |
| Processes that have influenced the physical landscape of the UK | How upland and lowland landscapes in the UK have developed and the role of the following in this:   * Geology * Past tectonic activity * Glacial processes (erosion and deposition) |  |
| Characteristics and distribution of the three main rock types:   * Sedimentary e.g. chalk, carboniferous limestone, clay * Igneous e.g. granite * Metamorphic e.g. schists, slate |  |
| Creation of distinctive landscapes | What the physical processes that can change the landscape are and how they change upland/ lowland environments:   * Weathering and climatological * Post-glacial river * Slope |  |
| That human activity can change the landscape. The role of the following in doing so:   * Agriculture * Forestry * Settlement |  |
| ***COASTS: Processes and landscapes*** | | |
| Coastal landscapes | The difference between a discordant and a concordant coastline. |  |
| How joints, faults and rock type (hard/ soft) can influence erosional landforms. |  |
| The four types of erosion (solution, corrosion/ abrasion, attrition, hydraulic action). |  |
| How the following landforms are created by erosion:   * Headlands and bays * Caves, arches, stacks and stumps * Wave cut platforms |  |
| Characteristics of destructive and constructive waves. |  |
| The role of longshore drift. |  |
| How the following landforms are created by deposition:   * Spits and bars * Beaches |  |
| Modification of coastal landscapes | How human activities (development, agriculture, industry and coastal management) have effects on coastal landscapes. |  |
| **LOCATED EXAMPLE**  **Change in one named coastal landscape: The Holderness Coast in Yorkshire**  How have physical and human processes caused change here? |  |
| ***COASTS: Challenges and management*** | | |
| Challenges along coastlines and management options | Why the risk of coastal flooding is increasing. |  |
| The threats of coastal flooding to people and the environment. |  |
| The difference between hard and soft engineering. |  |
| Advantages and disadvantages of using hard engineering (e.g. groynes and sea walls). |  |
| Advantages and disadvantages of using soft engineering (e.g. beach replenishment and slope stabilisation). |  |
| Sustainable approaches to coastal management:   * Do nothing * Strategic realignment |  |
| ***RIVERS: Processes and landscapes*** | | |
| River landscapes | The long profile of a river |  |
| Characteristics of the upper, middle and lower course of rivers (including how channel width, depth, valley profile, gradient, discharge, velocity and sediment size and shape change). |  |
| How the long profile of the **River Severn** changes. |  |
| Types of erosion - solution, corrosion/ abrasion, attrition, hydraulic action. |  |
| Types of transportation – traction, saltation, suspension, solution. |  |
| How the following landforms are formed:   * Meanders and oxbow lakes * Interlocking spurs * Waterfalls * Floodplains * Levees * Deltas |  |
| What a storm hydrograph shows. |  |
| What lag-time is. |  |
| How physical factors (e.g. geology, soil type, slope, drainage basin shape and antecedent conditions) can affect hydrographs and lag-times. |  |
| Human activity and physical processes in rivers | How human activities (urbanisation, land use change and deforestation) can affect river landscapes and hydrographs. |  |
| **LOCATED EXAMPLE**  **River Flooding on River Severn: Tewkesbury 2007**  How did physical and human processes cause river flooding here? |  |
| *RIVERS: Challenges and management* | | |
| River management | Why the risk of river flooding is increasing. |  |
| The threats of river flooding to people and the environment. |  |
| Advantages and disadvantages of hard engineering (e.g. flood walls, embankments and flood barriers). |  |
| Advantages and disadvantages of soft engineering (e.g. flood plain retention, river restoration). |  |

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| **Key Idea** | **I know/ understand…** | RAG |
| ***The UK’s Evolving Human Landscape*** | | |
| The UK’s human landscape | What the urban core and rural periphery are. |  |
| Differences in population density, age structure, economic activities and settlement in the urban core and rural periphery. |  |
| How the following are trying to reduce these differences (both from the UK government and the EU):   * Enterprise zones * Investment in transport infrastructure * Regional development |  |
| The UK and the wider world | How UK population has changed over the past 50 years. |  |
| Where people have migrated to the UK from in the past 50 years. |  |
| Where these people have moved to (the distribution). |  |
| How migration affects the age structure of the UK. |  |
| How immigration policy (both UK and EU) has influenced the patterns of migration. |  |
| Why primary and secondary industries have declined in the UK. |  |
| Why tertiary and quaternary industries have increased in the UK. |  |
| The impacts of these changes on regions of the UK. |  |
| What the following are:   * Globalisation * Free-trade * Privatisation * Foreign direct investment (FDI) |  |
| How globalisation is increasing FDI in the UK. |  |
| The role of TNCs in the UK economy. |  |
| ***CASE STUDY: How is London changing?*** | | |
| The location and context of London | Where London is located (regionally, nationally, internationally) |  |
| Why London’s location is significant related to its site, situation and connectivity. |  |
| The structure of London’s land use, including:   * Where is the CBD, the inner city, suburbs and rural-urban fringe? * Where are the oldest buildings? Where are the newest? |  |
| How environmental quality varies across London. |  |
| Changes in employment, services and migration in London | How migration has affected growth and character in different parts of London. Consider:   * Age structure * Ethnicity * Housing * Services * Culture |  |
| Reasons for differences in inequality (of employment, services, education and health) across London (Richmond and Newham). |  |
| Challenges and opportunities in London | Why parts of London experienced decline. |  |
| Why other parts of London have experienced growth (both economic and population). |  |
| What gentrification and studentification are. |  |
| Improvements in London | What rebranding is. |  |
| How regeneration and rebranding have created positive and negative impacts on people. |  |
| Strategies aimed at improving sustainability in London. |  |
| London and rural areas | How London and surrounding rural areas are interdependent. |  |
| Counter-urbanisation and the impacts on surrounding rural areas (Chelmsford) |  |
| Why Cornwall has experienced economic and social changes. |  |
| Challenges and opportunities in the rural areas | Challenges facing quality of life for some rural groups, particularly in relation to:   * Housing * Employment * Healthcare * Education |  |
| What rural diversification is. |  |
| Opportunities that rural diversification and tourism projects can create |  |
| Environmental impacts that both rural diversification and tourism can create. |  |

**Remember that these section are based on unseen fieldwork.**

**1. HUMAN FIELDWORK**

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| **I know/ understand…** | RAG |
| The aim of the investigation |  |
| The purpose of the investigation |  |
| Creating your own enquiry question |  |
| Why certain locations were chosen for an investigation |  |
| How both primary and secondary data is collected |  |
| Identify, describe and explain sampling (random, systematic or stratified). |  |
| Why data was collected in a certain way |  |
| How to present a range of data |  |
| How to describe data |  |
| How to analyse data. |  |
| How to draw conclusion |  |
| What went well in the investigation? |  |
| What could have gone better in the investigation? |  |
| How to assess the reliability of conclusions |  |

**2.** **PHYSICAL FIELDWORK –**

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| **I know/ understand…** | RAG |
| The aim of the investigation |  |
| The purpose of the investigation |  |
| Creating your own enquiry question |  |
| Why certain locations were chosen for an investigation |  |
| How both primary and secondary data is collected |  |
| Identify, describe and explain sampling (random, systematic or stratified). |  |
| Why data was collected in a certain way |  |
| How to present a range of data |  |
| How to describe data |  |
| How to analyse data. |  |
| How to draw conclusion |  |
| What went well in the investigation? |  |
| What could have gone better in the investigation? |  |
| How to assess the reliability of conclusions |  |

**Paper 3:**

**People and the Biosphere**

**Forests under Treat**

**Consuming Energy Resources**

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| ***The importance of the biosphere*** | | |
| The Earth’s biomes | What a biome is (large-scale ecosystems) |  |
| The major biomes and their characteristics:   * Tropical rainforests * Temperate forests * Boreal forests (Taiga) * Tropical grasslands * Temperate grasslands * Deserts * Tundra |  |
| The distribution of these major biomes. |  |
| How the distribution of these biomes is influenced by:   * Temperature * Precipitation * Sunshine hours |  |
| How altitude, rock & soil type and drainage can affect biome distribution locally. |  |
| The biotic components of biomes – flora and fauna. |  |
| The abiotic components of biomes – soils, rock, water and atmosphere. |  |
| How the biotic and abiotic components interact. |  |
| The biosphere‘s importance for people | What indigenous means. |  |
| What the biosphere means. |  |
| How indigenous and local people rely on the biosphere for resources such as:   * Food * Medicine * Building materials * Fuel resources |  |
| What commercial exploitation is. |  |
| How the biosphere is being commercially exploited for:   * Energy * Water * Mineral resources |  |
| How the biosphere regulates the composition of the atmosphere. |  |
| How the biosphere keeps soil healthy. |  |
| How the biosphere affects the hydrological (water) cycle. |  |
| There is an increased demand for resources of food, energy and water. |  |
| This demand is increasing because of:   * Population growth * Rising affluence * Urbanisation * Industrialisation |  |
| What Malthus believed would happen to resource supply as population increased. |  |
| What Boserup believed would happen to resource supply as population increased. |  |

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| **Key Idea** | **I know/ understand…** | ✓ |
| ***Forests Under Threat*** | | |
| **Tropical rainforests (TR)** | | |
| Structure, functions and adaptation of the tropical rainforest | How biotic and abiotic characteristics are interdependent in the TR (climate, soil, water, plants, animals and humans). |  |
| The four stratified layers in the TR:   * Emergent layer * Main canopy * Understorey * Forest floor |  |
| How plants have adapted to live in the TR:   * Buttress roots * Drip tips |  |
| How animals have adapted to live in the TR. |  |
| The three nutrient stores in the TR (biomass, litter, soil). |  |
| Why nutrients are cycled quickly in the rainforest. |  |
| How nutrient cycling supports high biodiversity and complex food webs. |  |
| Threats to the tropical rainforest | Causes of deforestation in the TR:   * Commercial hardwood logging * Subsistence agriculture * Commercial agriculture * Local demand for fuel wood * Demand for biofuels, mineral resources and electricity (HEP) |  |
| The difference between direct and indirect threats. |  |
| Why climate change is an indirect threat to the TR. |  |
| Management of the tropical rainforest | What REDD is. |  |
| Advantages and disadvantages of using REDD as a method of conservation. |  |
| What CITES is. |  |
| Advantages and disadvantages of using CITES as a method of conservation. |  |
| What sustainable forest management is. |  |
| Challenges of achieving sustainable forest management. |  |
| What ecotourism and sustainable farming are. |  |
| How they might help protect the TR. |  |
| **Taiga (boreal) forest** | | |
| Structure, functions and adaptation of the taiga | How biotic and abiotic characteristics are interdependent in the taiga (climate, soil, water, plants, animals and humans). |  |
| How plants have adapted to live in the taiga:   * Cone-shaped * Needles * Simple structure |  |
| How animals have adapted to live in the taiga (including migration). |  |
| Why the taiga has lower productivity and less active nutrient cycling. |  |
| How nutrient cycling leads to low levels of biodiversity. |  |
| Threats to the taiga | Direct threats to the taiga:   * Logging for softwood * Pulp and paper production |  |
| Indirect threats to the taiga:   * Exploitation of minerals * Exploitation of fossil fuels * HEP potential |  |
| There is a loss of biodiversity in the taiga because of:   * Acid precipitation * Forest fires * Pests and diseases |  |
| Management of the taiga | What a wilderness area is. |  |
| What national parks are. |  |
| The challenges of creating wilderness areas, national parks and sustainable forestry in the taiga. |  |
| Why some people want to protect the taiga. |  |
| Why other people want to exploit the taiga. |  |

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|  | **I know/ understand…** | ✓ |
| **Consuming Energy Resources** | | |
| Energy resources and production | The meaning of non-renewable, renewable and recyclable energy. |  |
| Examples of non-renewable energy:  Finite stocks of fossil fuel coal, oil and gas. |  |
| Examples of renewable energy:  Flows of solar, wind and HEP |  |
| Examples of recyclable energy:  Nuclear and biofuels. |  |
| Impacts than mining and drilling can have on the environment:   * Landscape scarring * Oil spills * Carbon emissions * Removal of forests |  |
| Impacts that renewable energy can have on the landscape:   * HEP flooding * Land use for wind turbines and solar panels |  |
| Access to energy | Factors that affect access to energy:   * Access to technology * Physical resources – geology, accessibility, climate and landscape |  |
| How global energy use per capita varies. |  |
| Why energy consumption varies:   * Levels of economic development * Reliance of traditional fuel sources * Demand from different economic sectors |  |
| Supply and demand for oil | What an oil reserve is. |  |
| How oil reserves and production are unevenly distributed. |  |
| Why oil consumption is growing. |  |
| What factors affect oil supply and prices:   * International relations – conflicts, diplomatic relations * Economic factors – recession VS boom, over or under supply |  |
| Exploitation of new areas | What a conventional energy reserve is. |  |
| Benefits of developing conventional energy reserves in isolated areas. |  |
| Costs of developing conventional energy reserves in isolated areas. |  |
| What unconventional energy reserves are (tar sands, shale gas). |  |
| Environmental costs (impacts on water quality and ecosystems) of developing unconventional energy sources in isolated areas. |  |
| Sustainable energy use | What the difference between energy efficiency and energy conservation is. |  |
| How home s can be made more energy efficient. |  |
| How transport can be designed to better conserve energy. |  |
| How energy efficiency and conservation can reduce demand, help finite supplies last longer and reduce carbon emissions. |  |
| Costs and benefits of alternatives to fossil fuels:   * Biofuels * Wind * Solar * HEP |  |
| What hydrogen fuel is and its advantages. |  |
| How the alternatives to fossil fuels and technologies work to:   * Reduce carbon footprints * Improve energy security * Diversify the energy mix |  |
| Changing attitudes to energy | Contrasting views about energy futures from the following groups:   * Consumers * TNCs * Governments * Climate scientists * Environmental groups |  |
| What the ‘business as usual’ scenario for future energy use is. |  |
| What the ‘move to sustainability’ scenario for future energy use is. |  |
| Why the following are changing attitudes to energy futures in some, developed countries:   * Rising affluence * Environmental concerns * Education |  |