

# Exam Revision Pack

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# Exams

For the exams, you must have:

- A pencil
- A rubber
- A ruler
- A black pen
- A calculator

You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages. Do all rough work in the answer book. Cross through any work you do not want to be marked. Use case studies to support your answers where appropriate.

## Paper 1 - 21/05/18 (PM)

**1h 30m**

Section A: The Challenge of Natural Hazards - Answer all questions

Section B: The Living World - Answer questions on Ecosystems, Tropical Rainforests and Cold Environments

Section C: Physical Landscapes in the UK - Answer questions on Rivers and Coasts.

## Paper 2 - 05/06/18 (PM)

**1h 30m**

Section A: Urban Issues and Challenges - Answer all questions

Section B: The Changing Economic World - Answer all questions

Section C: The Challenge of Resource Management - Answer questions on Resource Management and Energy

## Paper 3 - 13/06/18 (PM)

**1h 15m**

Section A: Issue Evaluation - Answer all questions

Section B: Fieldwork - Answer all questions

## Command Words

| Command          | Meaning from AQA  | Example  | Advice from Simon Ross (textbook editor)  |
|------------------|---|--|---|
| <b>Assess</b>    | Make an informed judgement  | 'Assess how effective your presentation technique(s) were in representing the data collected in this enquiry'  | Using evidence to judge the level of success or importance, for example. Use words like 'very', 'not very', 'extremely well', 'poorly', etc.                |
| <b>Calculate</b> | Work out the value of something   | 'Using Figure 7, calculate the increase in retail sales value of Fairtrade bananas between 2000 and 2012'  | Be precise. Double-check your calculation. Give the correct units, e.g. kilometres or metres.   |
| <b>Compare</b>   | Identify similarities and differences   | 'Using Figure 4, compare HDI values in Africa and South America'   | Look for both similarities and differences. Use words like 'whereas' or 'as opposed to' when talking about differences.                                     |
| <b>Complete</b>  | Finish the task by adding given information                                     | 'Complete the following sentences...'  | Should be simple – just double check you have understood the question.  |
| <b>Describe</b>  | Set out characteristics   | 'Using Figure 9, describe the distribution of areas with existing licenses for fracking in the UK'   | Write what you can see. This might include shape, size, colour, movement, juxtaposition.  |
| <b>Discuss</b>   | Present key points about different ideas or strengths and weaknesses of an idea | 'Discuss the effects of urban sprawl on people and the environment'  | Give both sides of an argument – pros and cons, advantages and disadvantages. Try to be balanced. Words like 'whereas' are good.                            |
| <b>Evaluate</b>  | Judge from available evidence   | 'Evaluate the effectiveness of an urban transport scheme(s) you have studied'  | Use evidence to make judgements, often to do with levels of success or effectiveness. Make comparisons and use words like 'whereas' or 'on the other hand'. |
| <b>Explain</b>   | Set out purposes or reasons   | 'Using Figure 12 and your own knowledge, explain how different landforms may be created by the transport and deposition of sediment along the coast' | Give reasons why something has formed or occurred, such as a waterfall. This requires you to show your understanding. Use the word 'because'.               |
| <b>Give</b>      | Produce an answer from recall   | 'Give one condition that is needed for a tropical storm to form'   | Pretty much the same as 'state'. Usually simple but be careful and double check your answer.  |
| <b>Identify</b>  | Name or otherwise characterise  | 'Identify the glacial landform at grid reference 653532'   | Usually simple and direct point-mark question requiring a precise and accurate answer.  |
| <b>Justify</b>   | Support a case with evidence  | Transnational corporations (TNCs) only bring advantages to the host country.' Do you agree with this statement? Justify your decision                | Higher level command word asking you to back-up your views or a decision. Refer to evidence to support your answer.   |
| <b>Outline</b>   | Set out main characteristics  | 'Outline one way that Fairtrade helps to deal with the problems of unequal development'  | A relatively brief overview of the key points or characteristics. A brief description.  |
| <b>State</b>     | Present a possible case   | 'State one characteristic of the course of the River Ouse in grid square 5754'   | Pretty much the same as 'give'. Usually simple but be careful and double check your answer.   |
| <b>Suggest</b>   | Present a possible case   | 'Suggest how the sea defences shown in Figure 11 help to protect the coastline'  | Put forward an idea/judgement/point of view. Usually requires evidence in support.  |

|                              |   |  |  |
|------------------------------|---|--|--|
| <p><b>To what extent</b></p> | <p>Judge the importance or success of (strategy, scheme, project)</p> | <p>'To what extent do urban areas in lower income countries (LICs) or newly emerging economies (NEEs) provide social and economic opportunities for people?'</p> | <p>Essentially imagine a line from 0% - 100% . . . yes/no or good/bad. Where is your opinion on that imaginary line and why? Words like 'mostly', 'almost entirely', 'not very' might be applicable.</p> |
|------------------------------|---|--|--|

# Glossary of Key Terminology

Definitions [from AQA](#).

## The Challenge of Natural Hazards

**Hazard risk** The probability or chance that a natural hazard may take place.

**Natural hazard** A natural event (for example an earthquake, volcanic eruption, tropical storm, flood) that threatens people or has the potential to cause damage, destruction and death.

## Tectonic Hazards

**Conservative plate margin** Tectonic plate margin where two tectonic plates slide past each other.

**Constructive plate margin** Tectonic plate margin where rising magma adds new material to plates that are diverging or moving apart.

**Destructive plate margin** Tectonic plate margin where two plates are converging or coming together and oceanic plate is subducted. It can be associated with violent earthquakes and explosive volcanoes.

**Earthquake** A sudden or violent movement within the Earth's crust followed by a series of shocks.

**Immediate responses** The reaction of people as the disaster happens and in the immediate aftermath.

**Long-term responses** Later reactions that occur in the weeks, months and years after the event.

**Monitoring** Recording physical changes, such as earthquake tremors around a volcano, to help forecast when and where a natural hazard might strike.

**Plate margin** The margin or boundary between two tectonic plates.

**Planning** Actions taken to enable communities to respond to, and recover from, natural disasters, through measures such as emergency evacuation plans, information management, communications and warning systems.

**Prediction** Attempts to forecast when and where a natural hazard will strike, based on current knowledge. This can be done to some extent for volcanic eruptions (and tropical storms), but less reliably for earthquakes.

**Primary effects** The initial impact of a natural event on people and property, caused directly by it, for instance the ground buildings collapsing following an earthquake.

**Protection** Actions taken before a hazard strikes to reduce its impact, such as educating people or improving building design.

**Secondary effects** The after-effects that occur as indirect impacts of a natural event, sometimes on a longer timescale, for instance fires due to ruptured gas mains resulting from the ground shaking.

**Tectonic hazard** A natural hazard caused by movement of tectonic plates (including volcanoes and earthquakes).

**Tectonic plate** A rigid segment of the Earth's crust which can 'float' across the heavier, semi-molten rock below. Continental plates are less dense, but thicker than oceanic plates.

**Volcano** An opening in the Earth's crust from which lava, ash and gases erupt.

## Weather Hazards

**Economic impact** The effect of an event on the wealth of an area or community.

**Environmental impact** The effect of an event on the landscape and ecology of the surrounding area.

**Extreme weather** This is when a weather event is significantly different from the average or usual weather pattern, and is especially severe or unseasonal. This may take place over one day or a period of time. A severe snow blizzard or heat wave are two examples of extreme weather in the UK.

**Global atmospheric circulation** The worldwide system of winds, which transports heat from tropical to polar latitudes. In each hemisphere, air also circulates through the entire depth of the troposphere which extends up to 15 km.

**Immediate responses** The reaction of people as the disaster happens and in the immediate aftermath.

**Long-term responses** Later reactions that occur in the weeks, months and years after the event.

**Management strategies** Techniques of controlling, responding to, or dealing with an event.

**Monitoring** Recording physical changes, such as tracking a tropical storm by satellite, to help forecast when and where a natural hazard might strike.

**Planning** Actions taken to enable communities to respond to, and recover from, natural disasters, through measures such as emergency evacuation plans, information management, communications and warning systems.

**Prediction** Attempts to forecast when and where a natural hazard will strike, based on current knowledge. This can be done to some extent for tropical storms (and volcanic eruptions, but less reliably for earthquakes).

**Primary effects** The initial impact of a natural event on people and property, caused directly by it, for instance buildings being partially or wholly destroyed by a tropical storm.

**Protection** Actions taken before a hazard strikes to reduce its impact, such as educating people or improving building design.

**Secondary effects** The after-effects that occur as indirect impacts of a natural event, sometimes on a longer timescale, for instance impact on access to potable water can lead to spread of disease.

**Social impact** The effect of an event on the lives of people or community.

**Tropical storm** (hurricane, cyclone, typhoon) An area of low pressure with winds moving in a spiral around the calm central point called the eye of the storm. Winds are powerful and rainfall is heavy.

## Climate Change

**Adaptation** Actions taken to adjust to natural events such as climate change, to reduce potential damage, limit the impacts, take advantage of opportunities, or cope with the consequences.

**Climate change** A long-term change in the earth's climate, especially a change due to an increase in the average atmospheric temperature.

**Mitigation** Action taken to reduce or eliminate the long-term risk to human life and property from natural hazards, such as building earthquake-proof buildings or making international agreements about carbon reduction targets.

**Orbital changes** Changes in the pathway of the Earth around the Sun.

**Quaternary period** The period of geological time from about 2.6 million years ago to the present. It is characterized by the appearance and development of humans and includes the Pleistocene and Holocene Epochs.

## The Living World

### Ecosystems

**Abiotic** Relating to non-living things.

**Biotic** Relating to living things.

**Consumer** Creature that eats animals and/or plant matter.

**Decomposer** An organism such as a bacterium or fungus, that breaks down dead tissue, which is then recycled to the environment.

**Ecosystem** A community of plants and animals that interact with each other and their physical environment.

**Food chain** The connections between different organisms (plants and animals) that rely on one another as their source of food.

**Food web** A complex hierarchy of plants and animals relying on each other for food.

**Nutrient cycling** A set of processes whereby organisms extract minerals necessary for growth from soil or water, before passing them on through the food chain - and ultimately back to the soil and water.

**Global ecosystem** Very large ecological areas on the earth's surface (or biomes), with fauna and flora (animals and plants) adapting to their environment. Examples include tropical rainforest and hot desert.

**Producer** An organism or plant that is able to absorb energy from the sun through photosynthesis.

## Tropical Rainforests

**Biodiversity** The variety of life in the world or a particular habitat.

**Commercial farming** Farming to sell produce for a profit to retailers or food processing companies.

**Debt reduction** Countries are relieved of some of their debt in return for protecting their rainforests.

**Deforestation** The chopping down and removal of trees to clear an area of forest.

**Ecotourism** Responsible travel to natural areas that conserves the environment, sustains the wellbeing of the local people, and may involve education. It is usually carried out in small groups and has minimal impact on the local ecosystem.

**Logging** The business of cutting down trees and transporting the logs to sawmills.

**Mineral extraction** The removal of solid mineral resources from the earth. These resources include ores, which contain commercially valuable amounts of metals, such as iron and aluminium; precious stones, such as diamonds; building stones, such as granite; and solid fuels, such as coal and oil shale.

**Selective logging** The cutting out of trees which are mature or inferior, to encourage the growth of the remaining trees in a forest or wood.

**Soil erosion** Removal of topsoil faster than it can be replaced, due to natural (water and wind action), animal, and human activity. Topsoil is the top layer of soil and is the most fertile because it contains the most organic, nutrient-rich materials.

**Subsistence farming** A type of agriculture producing food and materials for the benefit only of the farmer and his family.

**Sustainability** Actions and forms of progress that meet the needs of the present without reducing the ability of future generations to meet their needs.

## Cold Environments

**Biodiversity** The variety of life in the world or a particular habitat.

**Fragile environment** An environment that is both easily disturbed and difficult to restore if disturbed. Plant communities in fragile areas have evolved in highly specialised ways to deal with challenging conditions. As a result, they cannot tolerate environmental changes.

**Infrastructure** The basic equipment and structures (such as roads, utilities, water supply and sewage) that are needed for a country or region to function properly.

**Mineral extraction** The removal of solid mineral resources from the earth. These resources include ores, which contain commercially valuable amounts of metals, such as iron and aluminium; precious stones, such as diamonds; building stones, such as granite; and solid fuels, such as coal and oil shale.

**Permafrost** Permanently frozen ground, found in polar and tundra regions.

**Polar** The regions of Earth surrounding the North and South Poles. These regions are dominated by Earth's polar ice caps, the northern resting on the Arctic Ocean and the southern on the continent of Antarctica.

**Tundra** The flat, treeless Arctic regions of Europe, Asia and North America, where the ground is permanently frozen. Lichen, moss, grasses and dwarf shrubs can grow here.

**Wilderness area** A natural environment that has not been significantly modified by human activity. Wilderness areas are the most intact, undisturbed areas left on Earth – places that humans do not control and have not developed.

## Physical Landscapes in the UK

**Landscape** An extensive area of land regarded as being visually and physically distinct

### Coastal Landscapes in the UK

**Abrasion** (aka corrasion) The wearing away of cliffs by sediment flung by breaking waves.

**Arch** A wave-eroded passage through a small headland. This begins as a cave formed in the headland, which is gradually widened and deepened until it cuts through.

**Attrition** Erosion caused when rocks and boulders transported by waves bump into each other and break up into smaller pieces.

**Bar** Where a spit grows across a bay, a bay bar can eventually enclose the bay to create a lagoon. Bars can also form offshore due to the action of breaking waves.

**Beach** The zone of deposited material that extends from the low water line to the limit of storm waves. The beach or shore can be divided in the foreshore and the backshore.

**Beach nourishment** The addition of new material to a beach artificially, through the dumping of large amounts of sand or shingle.

**Beach reprofiling** Changing the profile or shape of the beach. It usually refers to the direct transfer of material from the lower to the upper beach or, occasionally, the transfer of sand down the dune face from crest to toe.

**Cave** A large hole in the cliff caused by waves forcing their way into cracks in the cliff face.

**Chemical weathering** The decomposition (or rotting) of rock caused by a chemical change within that rock; sea water can cause chemical weathering of cliffs.

**Cliff** A steep high rock face formed by weathering and erosion along the coastline.

**Deposition** Occurs when material being transported by the sea is dropped due to the sea losing energy.

**Dune regeneration** Action taken to build up dunes and increase vegetation to strengthen the dunes and prevent excessive coastal retreat. This includes the re-planting of marram grass to stabilise the dunes, as well as planting trees and providing boardwalks.

**Erosion** The wearing away and removal of material by a moving force, such as a breaking wave.

**Gabion** Steel wire mesh filled with boulders used in coastal defences.

**Groyne** A wooden barrier built out into the sea to stop the longshore drift of sand and shingle, and so cause the beach to grow. It is used to build beaches to protect against cliff erosion and provide an important tourist amenity. However, by trapping sediment it deprives another area, down-drift, of new beach material.

**Hard engineering** The use of concrete and large artificial structures by civil engineers to defend land against natural erosion processes.

**Headlands and bays** A rocky coastal promontory made of rock that is resistant to erosion; headlands lie between bays of less resistant rock where the land has been eroded back by the sea.

**Hydraulic power** The process by which breaking waves compress pockets of air in cracks in a cliff. The pressure may cause the crack to widen, breaking off rock.

**Longshore drift** The zigzag movement of sediment along a shore caused by waves going up the beach at an oblique angle(wash) and returning at right angles(backwash). This results in the gradual movement of beach materials along the coast.

**Managed retreat** Allowing cliff erosion to occur as nature taking its course: erosion in some areas, deposition in others. Benefits include less money spent and the creation of natural environments. It may involve setting back or realigning the shoreline and allowing the sea to flood areas that were previously protected by embankments and seawalls.

**Mass movement** The downhill movement of weathered material under the force of gravity. The speed can vary considerably.

**Mechanical weathering** Weathering processes that cause physical disintegration or break up of exposed rock without any change in the chemical composition of the rock, for instance freeze thaw.

**Rock armour** Large boulders dumped on the beach as part of the coastal defences.

**Sand dune** Coastal sand hill above the high tide mark, shaped by wind action, covered with grasses and shrubs.

**Sea wall** A concrete wall which aims to prevent erosion of the coast by providing a barrier which reflects wave energy.

**Sliding** Occurs after periods of heavy rain when loose surface material becomes saturated and the extra weight causes the material to become unstable and move rapidly downhill, sometimes in an almost fluid state.

**Slumping** Rapid mass movement which involves a whole segment of the cliff moving down-slope along a saturated shear-plane or line of weakness.

**Soft engineering** Managing erosion by working with natural processes to help restore beaches and coastal ecosystems.

**Spit** A depositional landform formed when a finger of sediment extends from the shore out to sea, often at a river mouth. It usually has a curved end because of opposing winds and currents.

**Stack** An isolated pillar of rock left when the top of an arch has collapsed. Over time further erosion reduces the stack to a smaller, lower stump.

**Transportation** The movement of eroded material.

**Wave cut platform** A rocky, level shelf at or around sea level representing the base of old, retreated cliffs.

**Waves** Ripples in the sea caused by the transfer of energy from the wind blowing over the surface of the sea. The largest waves are formed when winds are very strong, blow for lengthy periods and cross large expanses of water.

## River Landscapes in the UK

**Abrasion** Rocks carried along by the river wear down the river bed and banks.

**Attrition** Rocks being carried by the river smash together and break into smaller, smoother and rounder particles.

**Cross profile** The side to side cross-section of a river channel and/or valley.

**Dam and reservoir** A barrier (made on earth, concrete or stone) built across a valley to interrupt river flow and create a man-made lake (reservoir) which stores water and controls the discharge of the river.

**Discharge** The quantity of water that passes a given point on a stream or river-bank within a given period of time.

**Embankments** Raised banks constructed along the river; they effectively make the river deeper so it can hold more water. They are expensive and do not look natural but they do protect the land around them.

**Estuary** The tidal mouth of a river where it meets the sea; wide banks of deposited mud are exposed at low tide.

**Flood** Occurs when river discharge exceeds river channel capacity and water spills out of the channel onto the floodplain and other areas.

**Flood plain** The relatively flat area forming the valley floor on either side of a river channel, which is sometimes flooded.

**Flood plain zoning** This attempts to organise the flood defences in such a way that land that is near the river and often floods is not built on. This could be used for pastoral farming, playing fields etc. The areas that rarely get flooded would therefore be used for houses, transport and industry.

**Flood relief channels** Building new artificial channels which are used when a river is close to maximum discharge. They take the pressure off the main channels when floods are likely, therefore reducing flood risk.

**Flood risk** The predicted frequency of floods in an area.

**Flood warning** Providing reliable advance information about possible flooding. Flood warning systems give people time to remove possessions and evacuate areas.

**Fluvial processes** Processes relating to erosion, transport and deposition by a river.

**Gorge** A narrow, steep sided valley, often formed as a waterfall retreats upstream.

**Hard engineering** Involves the building of entirely artificial structures using various materials such as rock, concrete and steel to reduce, disrupt or stop the impact of river processes.

**Hydraulic action** The force of the river against the banks can cause air to be trapped in cracks and crevices. The pressure weakens the banks and gradually wears it away.

**Hydrograph** A graph which shows the discharge of a river, related to rainfall, over a period of time.

**Interlocking spurs** A series of ridges projecting out on alternate sides of a valley and around which a river winds its course.

**Lateral erosion** Sideways erosion by a river on the outside of a meander channel. It eventually leads to the widening of the valley and contributes to the formation of the flood plain.

**Levees** Embankment of sediment along the bank of a river. It may be formed naturally by regular flooding or be built up by people to protect the area against flooding.

**Long profile** The gradient of a river, from its source to its mouth.

**Meander** A pronounced bend in a river.

**Ox-bow lake** An arc-shaped lake which has been cut off from a meandering river.

**Precipitation** Moisture falling from the atmosphere - as rain, hail, sleet or snow.

**Saltation** Particles bouncing down the river bed.

**Soft engineering** Involves the use of the natural environment surrounding a river, using schemes that work with the river's natural processes. Soft engineering is usually much cheaper (than Hard Engineering) and offers a more sustainable option as it does not interfere directly with the river's flow.

**Solution** Soluble particles are dissolved into the river.

**(Channel) straightening** Removing meanders from a river to make the river straighter. Straightening the river (also called channelising) allows it to carry more water quickly downstream, so it doesn't build up and is less likely to flood.

**Suspension** Fine solid material held in the water while the water is moving.

**Traction** The rolling of boulders and pebbles along the river bed.

**Vertical erosion** Downward erosion of a river bed.

**Waterfall** Sudden descent of a river or stream over a vertical or very steep slope in its bed. It often forms where the river meets a band of softer rock after flowing over an area of more resistant material.

## Urban Issues and Challenges

**Brownfield site** Land that has been used, abandoned and now awaits some new use. Commonly found across urban areas, particularly in the inner city.

**Dereliction** Abandoned buildings and wasteland.

**Economic opportunities** Chances for people to improve their standard of living through employment.

**Greenfield site** A plot of land, often in a rural or on the edge of an urban area that has not yet been subject to any building development.

**Inequalities** Differences between poverty and wealth, as well as in people's wellbeing and access to things like jobs, housing and education. Inequalities may occur in housing provision, access to services, access to open land, safety and security.

**Integrated transport systems** When different transport methods connect together, making journeys smoother and therefore public transport more appealing. Better integration should result in more demand for public transport and should see people switching from private car use to public modes of transport, which should be more sustainable. It may also lead to a fall in congestion due to less road users.

**Megacity** An urban area with a total population in excess of ten million people.

**Migration** When people move from one area to another. In many LICs people move from rural to urban areas (rural-urban migration).

**Natural increase** The birth rate minus the death rate of a population.

**Pollution** The presence of chemicals, noise, dirt or other substances which have harmful or poisonous effects on an environment.

**Rural-urban fringe** A zone of transition between the built-up area and the countryside, where there is often competition for land use. It is a zone of mixed land uses, from out of town shopping centres and golf courses to farmland and motorways.

**Sanitation** Measures designed to protect public health, including the provision of clean water and the disposal of sewage and waste.

**Social deprivation** The degree to which an individual or an area is deprived of services, decent housing, adequate income and local employment.

**Social opportunities** Chances for people to improve their quality of life, for instance access to education and health care.

**Squatter settlement** An area of poor-quality housing, lacking in amenities such as water supply, sewerage and electricity, which often develops spontaneously and illegally in a city in an LIC.

**Sustainable urban living** A sustainable city is one in which there is minimal damage to the environment, the economic base is sound with resources allocated fairly and jobs secure, and there is a strong sense of community, with local people involved in decisions made. Sustainable urban living includes several aims including the use of renewable resources, energy efficiency, use of public transport, accessible resources and services.

**Traffic congestion** Occurs when there is too great a volume of traffic for roads to cope with, so traffic jams form and traffic slows to a crawl.

**Urban greening** The process of increasing and preserving open space such as public parks and gardens in urban areas.

**Urbanisation** The process by which an increasing percentage of a country's population comes to live in towns and cities. Rapid urbanisation is a feature of many LICs and NEEs.

**Urban regeneration** The revival of old parts of the built-up area by either installing modern facilities in old buildings (known as renewal) or opting for redevelopment (ie demolishing existing buildings and starting afresh).

**Urban sprawl** The unplanned growth of urban areas into the surrounding countryside.

**Waste recycling** The process of extracting and reusing useful substances found in waste.

## The Changing Economic World

**Birth rate** The number of births in a year per 1000 of the total population.

**Commonwealth** The Commonwealth is a voluntary association of 53 independent and equal sovereign states, which were mostly territories of the former British Empire. It is home to 2.2 billion citizens. Member states have no legal obligation to one another. Instead, they are united by language, history, culture, and their shared values of democracy, human rights, and the rule of law.

**Death rate** The number of deaths in a year per 1000 of the total population.

**De-industrialisation** The decline of a country's traditional manufacturing industry due to exhaustion of raw materials, loss of markets and competition from NEEs.

**Demographic Transition Model** A model showing how populations should change over time in terms of their birth rates, death rates and total population size.

**Development** The progress of a country in terms of economic growth, the use of technology and human welfare.

**Development gap** The difference in standards of living and wellbeing between the world's richest and poorest countries (between HICs and LICs).

**European Union** An international organisation of 28 European countries, including the UK, formed to reduce trade barriers and increase cooperation among its members. Seventeen of these countries also share the same type of money: the Euro. A person who is a citizen of a European Union country can live and work in any of the other 27 member countries without needing a work permit or visa.

**Fairtrade** When producers in LICs are given a better price for the goods they produce. Often this is from farm products like cocoa, coffee or cotton. The better price improves income and reduces exploitation.

**Globalisation** The process which has created a more connected world, with increases in the movements of goods (trade) and people (migration and tourism) worldwide.

**Gross national income (GNI)** A measurement of economic activity that is calculated by dividing the gross (total) national income by the size of the population. GNI takes into account not just the value of goods and services, but also the income earned from investments overseas.

**Human Development Index (HDI)** A method of measuring development in which GDP per capita, life expectancy and adult literacy are combined to give an overview. This combined measure of development uses economic and social indicators to produce an index figure that allows comparison between countries. Industrial structure The relative proportion of the workforce employed in different sectors of the economy (primary, secondary, tertiary and quaternary).

**Infant mortality** The average number of deaths of infants under 1 year of age, per 1000 live births, per year.

**Information technologies** Computer, internet, mobile phone and satellite technologies – especially those that speed up communication and the flow of information.

**Intermediate technology** The simple, easily learned and maintained technology used in a range of economic activities serving local needs in LICs.

**International aid** Money, goods and services given by the government of one country or a multilateral institution such as the World Bank or International Monetary Fund to help the quality of life and economy of another country.

**Life expectancy** The average number of years a person might be expected to live.

**Literacy rate** The percentage of people who have basic reading and writing skills.

**Microfinance loans** Very small loans which are given to people in the LICs to help them start a small business.

**North-south divide (UK)** Economic and cultural differences between Southern England (the South-East, Greater London, the South-West and parts of the East) and Northern England (the North-East, West and Yorkshire and the Humber). There are clear differences in health conditions, house prices, earnings, and political influence.

**Post-industrial economy** The economy of many economically developed countries where most employment is now in service industries.

**Science and business parks** Business Parks are purpose built areas of offices and warehouses, often at the edge of a city and on a main road. Science parks are often located near university sites, and high-tech industries are established. Scientific research and commercial development may be carried out in cooperation with the university.

**Service industries (tertiary industries)** The economic activities that provide various services - commercial (shops and banks), professional (solicitors and dentists), social (schools and hospitals), entertainment (restaurants and cinemas) and personal (hairdressers and fitness trainers).

**Trade** The buying and selling of goods and services between countries.

**Transnational Corporation (TNC)** A company that has operations (factories, offices, research and development, shops) in more than one country. Many TNCs are large and have well-known brands.

## The Challenge of Resource Management

**Agribusiness** Application of business skills to agriculture.

**Carbon footprint** A measurement of all the greenhouse gases we individually produce, through burning fossil fuels for electricity, transport etc, expressed as tonnes (or kg) of carbon-dioxide equivalent.

**Energy mix** The range of energy sources of a region or country, both renewable and nonrenewable.

**Food miles** The distance covered supplying food to consumers.

**Fossil fuel** A natural fuel such as coal or gas, formed in the geological past from the remains of living organisms.

**Local food sourcing** A method of food production and distribution that is local, rather than national and/or international. Food is grown (or raised) and harvested close to consumers' homes, then distributed over much shorter distances.

**Organic produce** Food which is produced using environmentally and animal friendly farming methods on organic farms. Artificial fertilisers are banned and farmers develop fertile soil by rotating crops and using compost, manure and clover. It must be free of synthetic additives like pesticides and dyes.

**Resource Management** The control and monitoring of resources so that they do not become depleted or exhausted.

## Energy

**Biomass** Renewable organic materials, such as wood, agricultural crops or wastes, especially when used as a source of fuel or energy. Biomass can be burned directly or processed into biofuels such as ethanol and methane.

**Energy conservation** Reducing energy consumption through using less energy and becoming more efficient in using existing energy sources.

**Energy exploitation** Developing and using energy resources to the greatest possible advantage, usually for profit.

**Energy security** Uninterrupted availability of energy sources at an affordable price.

**Fossil fuel** A natural fuel such as coal or gas, formed in the geological past from the remains of living organisms.

**Geothermal energy** Energy generated by heat stored deep in the Earth.

**Hydroelectric power (HEP)** Electricity generated by turbines that are driven by moving water.

**Nuclear power** The energy released by a nuclear reaction, especially by fission or fusion. Nuclear energy uses fuel made from mined and processed uranium to make steam and generate electricity.

**Renewable energy sources** A resource which is not diminished when it is used; it recurs and cannot be exhausted (for example wind and tidal energy).

**Solar energy** The Sun's energy exploited by solar panels, collectors or cells to heat water or air or to generate electricity.

**Sustainable development** Development that meets the needs of the present without limiting the ability of future generations to meet their own needs.

**Sustainable energy supply** Energy that can potentially be used well into the future without harming future generations. Sustainable energy is the combination of energy savings, energy efficiency measures and technologies, as well as the use of renewable energy sources.

**Wind energy** Electrical energy obtained from harnessing the wind with windmills or wind turbines.

# Subject Content

This section details everything you need to know to complete the course. You have already seen this in your RAG/PLC sheets (completed at the end of each unit) but need to continually refresh and re-visit each theme during your revision.

## Paper 1 (Physical Geography)

### Section A: The Challenge of Natural Hazards

| <b>Q1. <u>Natural Hazards</u></b>   |  | ✓ | R | A | G |
|---|--|---|---|---|---|
| Natural hazards pose major risks to people and property   | Definition of a natural hazard   |   |   |   |   |
|   | Types of natural hazard  |   |   |   |   |
|   | Factors affecting hazard risk  |   |   |   |   |
| <b><u>Tectonic Hazards</u></b>  |  |   |   |   |   |
| Earthquakes and volcanic eruptions are the result of physical processes                               | Global distribution of earthquakes and volcanic eruptions                              |   |   |   |   |
|   | Plate margins  |   |   |   |   |
|   | Physical processes at plate margins (de/constructive, conservative)                    |   |   |   |   |
| The effects of and responses to tectonic hazards vary between areas of contrasting levels of wealth   | Primary and secondary effects of a tectonic hazard                                     |   |   |   |   |
|   | Immediate and long-term responses to a tectonic hazard                                 |   |   |   |   |
|   | Use named examples to show how effects/ responses differ between 2 contrasting areas   |   |   |   |   |
| Management can reduce the effects of a tectonic hazard  | Reasons why people continue to live in areas at risk of tectonic hazard                |   |   |   |   |
|   | How monitoring/prediction/protection/planning can reduce risks from tectonic hazards   |   |   |   |   |
| <b><u>Weather Hazards</u></b>   |  |   |   |   |   |
| Global atmospheric circulation helps to determine patterns of weather and climate                     | General atmospheric circulation model: pressure belts/ surface winds                   |   |   |   |   |
| Tropical storms (hurricanes/cyclones/ typhoons) develop as a result of particular physical conditions | Global distribution of tropical storms (hurricanes/ cyclones/ typhoons)                |   |   |   |   |
|   | Understanding of relationships between tropical storms/general atmospheric circulation |   |   |   |   |
|   | Causes of tropical storms and the sequence of their formation and development          |   |   |   |   |
|   | The structure and features of a tropical storm   |   |   |   |   |

|  |  |  |  |  |  |
|--|--|--|--|--|--|
|  | How climate change may affect the distribution/ frequency/ intensity of tropical storms  |  |  |  |  |
| Tropical storms have significant effects on people and the environment                                   | Primary and secondary effects of tropical storms   |  |  |  |  |
|  | Immediate and long-term responses to tropical storms   |  |  |  |  |
|  | Use a named example of a tropical storm to show its effects and responses  |  |  |  |  |
|  | How monitoring/prediction/protection/planning can reduce the effects of tropical storms  |  |  |  |  |
| The UK is affected by a number of weather hazards  | An overview of the types of weather experienced in the UK  |  |  |  |  |
| Extreme weather events in the UK have impacts on human activity  | An example of a recent weather event in the UK to illustrate: Causes   |  |  |  |  |
|  | An example of a recent weather event in the UK to illustrate: Social/ economic/ environmental impacts                              |  |  |  |  |
|  | An example of a recent weather event in the UK to illustrate: How management strategies can reduce risk                            |  |  |  |  |
|  | Evidence that weather is becoming more extreme in the UK   |  |  |  |  |
| <b><u>Climate Change</u></b>   |  |  |  |  |  |
| Climate change is the result of natural and human factors, and has a range of effects                    | Evidence for climate change from the beginning of the Quaternary period to present   |  |  |  |  |
|  | Possible causes for climate change: Natural factors - orbital changes/ volcanic activity/ solar output                             |  |  |  |  |
|  | Possible causes for climate change: Human factors - use of fossil fuels /agriculture/ deforestation                                |  |  |  |  |
|  | Overview of effects of climate change on people and the environment  |  |  |  |  |
| Managing climate change involves both mitigation (reducing causes) and adaptation (responding to change) | Managing climate change: Mitigation - alternative energy/ CCS/ tree planting/ international agreements                             |  |  |  |  |
|  | Managing climate change: Adaptation - changes in agricultural systems/ managing water supply/ reducing risk from rising sea levels |  |  |  |  |

**Section B: The Living World**

|  |   |   |   |   |   |
|--|---|---|---|---|---|
| <b><u>Q2. The Living World</u></b>   |   | ✓ | R | A | G |
| Ecosystems exist at a range of scales and involve the interaction between biotic and | An example of a small-scale UK ecosystem to illustrate the key concepts of ecosystems |   |   |   |   |
|  | The balance of components and impacts on the ecosystem of changing one component      |   |   |   |   |

|   |  |  |  |  |  |  |
|---|--|--|--|--|--|--|
| abiotic components  | Overview of distribution and characteristics of large scale natural global ecosystems  |  |  |  |  |  |
| <b><u>Tropical Rainforests</u></b>  |  |  |  |  |  |  |
| Tropical rainforest ecosystems have a range of distinctive characteristics            | Physical characteristics of a tropical rainforests   |  |  |  |  |  |
|   | Interdependence of climate/water/soils/plants/animals/people   |  |  |  |  |  |
|   | How plants and animals adapt to the physical conditions  |  |  |  |  |  |
|   | Issues related to biodiversity   |  |  |  |  |  |
| Deforestation has economic and environmental impacts                                  | Changing rates of deforestation  |  |  |  |  |  |
|   | A case study of a tropical rainforest to illustrate:   | Causes of deforestation (farming/ logging/ road building/ mineral extraction/ energy development/ settlement/ population growth) |  |  |  |  |
|   |  | Impacts of deforestation (economic development/ soil erosion/ climate change)  |  |  |  |  |
| Tropical rainforests need to be managed to be sustainable                             | Value of tropical rainforests to people and the environment  |  |  |  |  |  |
|   | Strategies used to manage the rainforest sustainably (selective logging/ replanting/ conservation/ education/ ecotourism/ international agreements / debt reduction) |  |  |  |  |  |
| <b><u>Cold Environments</u></b>   |  |  |  |  |  |  |
| N.B. Choose Cold Environments when given the option. We have not studied Hot Deserts. |  |  |  |  |  |  |
| Cold environments (polar and tundra) have a range of distinctive characteristics      | Physical characteristics of a cold environment   |  |  |  |  |  |
|   | Interdependence of climate/ permafrost/ soils/ plants/ animals/ people   |  |  |  |  |  |
|   | How plants and animals adapt to the physical conditions  |  |  |  |  |  |
|   | Issues related to biodiversity   |  |  |  |  |  |
| Development of cold environments creates opportunities and challenges                 | A case study of a cold environment to illustrate:  | Development opportunities in cold environments (mineral extraction/ energy/ fishing/ tourism)                                    |  |  |  |  |
|   |  | Challenges of developing cold environments (extreme temperature/ inaccessibility/ infrastructure)                                |  |  |  |  |
| Cold environments are at risk from economic development                               | The value of cold environments as wilderness areas and why these need protection   |  |  |  |  |  |
|   | Strategies to balance the needs of economic development and conservation (technology/ role of governments/ international agreements / conservation groups)           |  |  |  |  |  |

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

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| <b><u>UK Physical Landscapes</u></b>  |   | ✓ | R | A | G |
| N.B. Choose the Coasts and Rivers options (Q3, Q4) in your exam. Ignore Q5. |   |   |   |   |   |
| The UK has a range of   | An overview of the location of major upland/lowland areas and river systems |   |   |   |   |

|  |   |                                     |  |  |  |
|--|---|-------------------------------------|--|--|--|
| diverse landscapes   |   |                                     |  |  |  |
| <b>Q3. Coastal Landscapes in the UK</b>  |   |                                     |  |  |  |
| The coast is shaped by a number of physical processes  | Wave types and characteristics  |                                     |  |  |  |
|  | Mechanical and chemical weathering  |                                     |  |  |  |
|  | Mass movement - sliding/slumping/rock falls   |                                     |  |  |  |
|  | Erosion - hydraulic power/attrition/abrasion  |                                     |  |  |  |
|  | Transportation - longshore drift  |                                     |  |  |  |
|  | Deposition - why sediment is deposited in coastal areas                             |                                     |  |  |  |
| Distinctive coastal landforms are the result of rock type, structure and physical processes              | How geological structure and rock type influence coastal forms                      |                                     |  |  |  |
|  | Characteristics and formation of landforms resulting from erosion                   | Headlands and bays                  |  |  |  |
|  |   | Cliffs and wave-cut platforms       |  |  |  |
|  |   | Caves, arches, and stacks           |  |  |  |
|  | Characteristics and formation of landforms resulting from deposition                | Beaches                             |  |  |  |
|  |   | Sand dunes                          |  |  |  |
|  |   | Spits and bars                      |  |  |  |
| An example of a section of UK coastline to identify its major landforms                                  |   |                                     |  |  |  |
| Different management strategies can be used to protect coastlines from the effects of physical processes | The costs and benefits of the following management strategies                       | Hard Engineering                    |  |  |  |
|  |   | Soft Engineering                    |  |  |  |
|  |   | Managed retreat/coastal realignment |  |  |  |
|  | An e.g. of management in the UK to show reasons and resulting effects and conflicts |                                     |  |  |  |
| <b>Q4. Rivers</b>  |   |                                     |  |  |  |
| The shape of river valleys changes as rivers flow downstream   | The long profile and changing cross profile of a river and its valley               |                                     |  |  |  |
|  | Fluvial processes: erosion, transportation and deposition                           |                                     |  |  |  |
| Distinctive fluvial landforms result from different physical processes                                   | Characteristics and formation of landforms resulting from erosion                   |                                     |  |  |  |
|  | Characteristics and formation of landforms resulting from erosion and deposition    |                                     |  |  |  |

|   |   |                  |  |  |  |  |
|---|---|------------------|--|--|--|--|
|   | Characteristics and formation of landforms resulting from deposition                  |                  |  |  |  |  |
|   | An example of a UK river valley to identify major landforms of erosion and deposition |                  |  |  |  |  |
| Different management strategies can be used to protect river landscapes from flooding | How physical and human factors affect flood risk                                      |                  |  |  |  |  |
|   | The use of hydrographs to show the relationship between precipitation and discharge   |                  |  |  |  |  |
|   | The costs and benefits of the following strategies                                    | Hard Engineering |  |  |  |  |
|   |   | Soft Engineering |  |  |  |  |
| An e.g. of flood management in the UK to show reasons and issues                      |   |                  |  |  |  |  |

### Named Examples and Case Studies

| For a question which asks about...           | you should write about...                        |
|--|--|
| effects of and responses to tectonic hazards | Chile (2010) earthquake; Nepal (2015) earthquake |
| living with tectonic hazards                 | Iceland; Naples, Italy                           |
| a tropical storm                             | Typhoon Haiyan (2013), Philippines               |
| a recent weather event in the UK             | Somerset Levels floods (2014)                    |

| For a question which asks about...                  | you should write about...           |
|---|-------------------------------------|
| a small-scale ecosystem in the UK                   | a freshwater pond or a hedgerow     |
| deforestation in a tropical rainforest (case study) | the rainforest in Malaysia (Borneo) |
| a cold environment (case study)                     | Svalbard, Norway; Iceland           |

| For a question which asks about... | you should write about...              |
|------------------------------------|--|
| coastal landforms                  | Swanage, Dorset, UK                    |
| coastal management                 | Minehead, Somerset; Lyme Regis, Dorset |
| river landforms                    | Tees Valley, County Durham             |
| flood management                   | Banbury, Oxfordshire                   |

## Paper 2 (Human Geography)

### Section A: Urban Issues and Challenges

| <u>Q1. Urban Issues and Challenges</u> |                                    | ✓ | R | A | G |
|--|------------------------------------|---|---|---|---|
| A growing percentage of                | The global pattern of urban change |   |   |   |   |

|  |  |   |  |  |  |  |
|--|--|---|--|--|--|--|
| the world's population lives in urban areas  | Urban trends in different parts of the world, including HICs and LICs                |   |  |  |  |  |
|  | Factors affecting urbanisation - migration (push and pull factors), natural increase |   |  |  |  |  |
|  | The emergence of megacities  |   |  |  |  |  |
| Urban growth creates opportunities and challenges for cities in LICs and NEEs  | A case study of a major city in a LIC or NEE to illustrate...                        | The location/importance of the city regionally, nationally and internationally  |  |  |  |  |
|  |  | Causes of growth - natural increase and migration   |  |  |  |  |
|  |  | How urban growth has created social and economic opportunities  |  |  |  |  |
|  |  | How urban growth has presented challenges - managing urban growth, clean water, sanitation and energy, access to services, reducing unemployment and crime, managing environmental issues |  |  |  |  |
|  | An example of how urban planning is improving the QoL for urban poor                 |   |  |  |  |  |
| Urban change in cities in the UK leads to a variety of social, economic and environmental opportunities and challenges | Overview of the distribution of population and major cities of the UK                |   |  |  |  |  |
|  | A case study of a major UK city to illustrate...                                     | The location/importance of the city in the UK and internationally   |  |  |  |  |
|  |  | Impacts of national/international migration on the growth and character of the city   |  |  |  |  |
|  |  | How urban change has created social, economic and environmental opportunities   |  |  |  |  |
|  |  | How urban change has created social, economic and environmental challenges  |  |  |  |  |
|  |  | Impacts of urban sprawl on the rural-urban fringe and growth of commuter towns  |  |  |  |  |
|  | An example of an urban regeneration project to show...                               | Reasons why the area needed regeneration  |  |  |  |  |
|  |  | Main features of the project  |  |  |  |  |
| Urban sustainability requires management of resources and transport  | Features of sustainable urban living   | Water and energy conservation   |  |  |  |  |
|  |  | Waste recycling   |  |  |  |  |
|  |  | Creating green space  |  |  |  |  |
|  | How urban transport strategies are used to reduce traffic congestion                 |   |  |  |  |  |

## Section B: The Changing Economic World

| <u>Q2. The Changing Economic World</u>  |   |   | ✓ | R | A | G |
|---|---|---|---|---|---|---|
| There are global variations in economic development and quality of life   | Different ways of classifying parts of the world according to their development and quality of life |   |   |   |   |   |
|   | Different socio-economic measures of development  |   |   |   |   |   |
|   | Limitations of socio-economic measures  |   |   |   |   |   |
|   | Link between stages of the demographic transition model and levels of development                   |   |   |   |   |   |
|   | Physical/economic/historical causes of uneven development   |   |   |   |   |   |
|   | Consequences of uneven development - disparities in wealth/health, migration                        |   |   |   |   |   |
| Various strategies exist for reducing the global development gap  | Overview of strategies to reduce the development gap  |   |   |   |   |   |
|   | Example of how the growth of tourism in a LIC/NEE helps reduce the development gap                  |   |   |   |   |   |
| Some LICs and NEEs are experiencing rapid economic development which leads to significant social, environmental and cultural change | A case study of one LIC or NEE to illustrate...   | Location/importance of the country regionally/globally  |   |   |   |   |
|   |   | Wider political/social/cultural/environmental context of the country                          |   |   |   |   |
|   |   | Changing industrial structure   |   |   |   |   |
|   |   | Role of TNCs in relation to industrial development  |   |   |   |   |
|   |   | Changing political and trading relationships with the wider world                             |   |   |   |   |
|   |   | International aid - types, impacts  |   |   |   |   |
|   |   | Environmental impacts of economic development   |   |   |   |   |
|   |   | Effects of economic development on quality of life for the population                         |   |   |   |   |
| Major changes in the economy of the UK have affected, and will continue to affect, employment patterns and regional growth          | Economic futures in the UK  | Causes of economic change - deindustrialisation, globalisation, government policy             |   |   |   |   |
|   |   | Moving to a post-industrial economy   |   |   |   |   |
|   |   | Environmental impacts of industry - example of modern industrial sustainability               |   |   |   |   |
|   |   | Socio-economic changes in the rural landscape in one area of population growth                |   |   |   |   |
|   |   | Socio-economic changes in the rural landscape in one area of population decline               |   |   |   |   |
|   |   | Improvements and new developments in road and rail infrastructure, ports and airport capacity |   |   |   |   |

|  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|
|  |  | The North-South Divide and strategies used to resolve regional differences |  |  |  |  |
|  |  | The place of the UK in the wider world                                     |  |  |  |  |

## Section C: The Challenge of Resource Management

| <b>Q3. Resource Management</b>   |  |   | ✓ | R | A | G |
|--|--|---|---|---|---|---|
| N.B. Answer the questions on Resource Management, then choose Energy for the other question.           |  |   |   |   |   |   |
| Food, water and energy are fundamental to human development  | The significance of food, water and energy to economic and social well-being   |   |   |   |   |   |
|  | An overview of global inequalities in the supply and consumption of resources  |   |   |   |   |   |
| The changing demand and provision of resources in the UK create challenges and opportunities           | Food   | Growing need for high-value food from LICs, all-year demand for seasonal goods  |   |   |   |   |
|  |  | Larger carbon footprints due to increased food miles, moves to local food sourcing  |   |   |   |   |
|  |  | Trends towards agribusiness   |   |   |   |   |
|  | Water  | Changing demand for water   |   |   |   |   |
|  |  | Water quality and pollution management  |   |   |   |   |
|  |  | Matching supply and demand - areas of deficit and surplus, and need for transfer  |   |   |   |   |
|  | Energy   | Changing energy mix - reliance on fossil fuels, growing significance of renewables  |   |   |   |   |
|  |  | Reduced domestic supplies of fossil fuels   |   |   |   |   |
|  |  | Economic/environmental issues associated with exploitation of energy sources  |   |   |   |   |
| <b>Q6. Energy</b>  |  |   |   |   |   |   |
| Skip to Q6 on Energy. Do not attempt Q4 or Q5.   |  |   |   |   |   |   |
| Demand for energy resources is rising globally but supply can be insecure, which may lead to conflict. | Areas of surplus (security) and deficit (insecurity)   | global distribution of energy consumption and supply  |   |   |   |   |
|  |  | reasons for increasing energy consumption: economic development, rising population, technology  |   |   |   |   |
|  |  | factors affecting energy supply: physical factors, cost of exploitation and production, technology and political factors.   |   |   |   |   |
|  | Impacts of energy insecurity – exploration of difficult and environmentally sensitive areas, economic and environmental costs, food production, industrial output, potential for conflict where demand exceeds supply. |   |   |   |   |   |
| Different strategies can be used to increase energy supply.  | Overview of strategies to increase energy supply   | Renewable (biomass, wind, hydro, tidal, geothermal, wave and solar) and non-renewable (fossil fuels and nuclear power) sources of energy  |   |   |   |   |
|  |  | An example to show how the extraction of a fossil fuel has both advantages and disadvantages.   |   |   |   |   |
|  | Moving towards a sustainable resource future   | Individual energy use and carbon footprints. Energy conservation: designing homes, workplaces and transport for sustainability, demand reduction, use of technology to increase efficiency in the use of fossil fuels |   |   |   |   |
|  |  | An example of a local renewable energy scheme in an LIC or NEE to provide sustainable supplies of energy.   |   |   |   |   |

## Named Examples and Case Studies

| For a question which asks about...          | you should write about...                |
|---|--|
| a major city in a LIC or NEE (case study)   | [Rocinha favela,] Rio de Janeiro, Brazil |
| urban planning to improve life for the poor |  |
| a major UK city (case study)                | Bristol, UK                              |
| an urban regeneration project               | Temple Quarter regeneration, Bristol, UK |
| sustainable urban living                    | Freiburg, Germany or Curitiba, Brazil    |

| For a question which asks about...          | you should write about...      |
|---|--------------------------------|
| a strategy for reducing the development gap | Sustainable tourism in Jamaica |
| a LIC/NEE                                   | Nigeria                        |
| the role of a TNC in a LIC/NEE              | Shell or Unilever in Nigeria   |
| a rural landscape with population growth    | South Cambridgeshire, UK       |
| a rural landscape with population decline   | [Islay,] Hebrides, UK          |
| sustainable modern industry in the UK       | Torr quarry, Somerset          |

| For a question which asks about...             | you should write about...              |
|--|--|
| a non-renewable source of energy               | natural gas                            |
| a local sustainable energy scheme in a LIC/NEE | Chambamontera micro-hydro scheme, Peru |

## Paper 3 (Geographical Enquiry)

### Section A: Issue Evaluation

Resources cannot be published online due to copyright restrictions. Lesson plans and preparation resources can, however, be found [here](#).

### Section B: Fieldwork

#### Geographical Skills

### Skills Checklist

These skills could appear to be assessed in **any** exam - not just Paper 3. Be prepared to use figures throughout your answers.

N.B. Some of these skills have been audited against the curriculum in Maths and not discretely taught in Geography lessons.

### Cartographic (map) skills

#### Ordnance Survey maps

|   |  | Y/N | R | A | G |
|---|--|-----|---|---|---|
| a   | use and interpret OS maps at a range of scales, including 1:50 000 and 1:25 000 and other maps appropriate to the topic  |     |   |   |   |
| b   | use and understand coordinates (four and six figure grid refs)   |     |   |   |   |
| Use and understand using a variety of scales: |  |     |   |   |   |
| c   | scale  |     |   |   |   |
| d   | distance (straight and curved line)  |     |   |   |   |
| e   | direction  |     |   |   |   |
| f   | gradient   |     |   |   |   |
| g   | contours   |     |   |   |   |
| h   | spot height  |     |   |   |   |
| i   | numerical and statistical information (including <a href="#">Spearman's Rank</a> )   |     |   |   |   |
| j   | identify basic landscape features and describe their characteristics from map evidence   |     |   |   |   |
| k   | identify major relief features on maps and relate cross-sectional drawings to relief features  |     |   |   |   |
| l   | draw inferences about the physical and human landscape by interpretation of map evidence, including patterns of relief, drainage, settlement, communication and land-use |     |   |   |   |
| m   | interpret cross sections and transects of physical and human landscapes  |     |   |   |   |
| n   | describe the physical features as they are shown on large scale maps of: coasts  |     |   |   |   |
| o   | and rivers   |     |   |   |   |
| p   | infer human activity from map evidence, including tourism  |     |   |   |   |

#### Atlas maps

|   |   | Y/N | R | A | G |
|---|---|-----|---|---|---|
| q   | use and understand coordinates - latitude and longitude   |     |   |   |   |
| r   | recognise and describe distributions and patterns of both human and physical features           |     |   |   |   |
| Maps based on global and other scales may be used and students may be asked to identify and describe: |   |     |   |   |   |
| s   | significant features of the physical and human landscape on them, e.g. population distribution, |     |   |   |   |
| t   | population movements, transport networks, settlement layout, relief and drainage                |     |   |   |   |

|   |   |  |  |  |  |
|---|---|--|--|--|--|
| u | analyse the inter-relationship between physical and human factors on maps and establish the associations between observed patterns on thematic maps |  |  |  |  |
|---|---|--|--|--|--|

### Maps in association with photographs

|    |   | Y/N | R | A | G |
|----|---|-----|---|---|---|
| v  | be able to compare maps   |     |   |   |   |
| w  | sketch maps: draw and label   |     |   |   |   |
| x  | sketch maps: understand and interpret   |     |   |   |   |
| y  | use and interpret ground photos and maps  |     |   |   |   |
| z  | use and interpret aerial photos and maps  |     |   |   |   |
| aa | use and interpret satellite photos and maps   |     |   |   |   |
| bb | describe human and physical landscapes (landforms, natural vegetation, land-use and settlement) and geographical phenomena from photographs |     |   |   |   |
| cc | draw sketches from photographs  |     |   |   |   |
| dd | label and annotate diagrams, maps, graphs, sketches and photos  |     |   |   |   |

### Graphical skills

|   |   | Y/N | R | A | G |
|---|---|-----|---|---|---|
| select and construct appropriate graphs and charts to present data, using appropriate scales: |   |     |   |   |   |
| a   | <a href="#">line charts</a>   |     |   |   |   |
| b   | <a href="#">bar charts</a>  |     |   |   |   |
| c   | <a href="#">pie charts</a>  |     |   |   |   |
| d   | <a href="#">pictograms</a>  |     |   |   |   |
| e   | <a href="#">histograms with equal class intervals</a>                         |     |   |   |   |
| f   | divided bar   |     |   |   |   |
| g   | <a href="#">scatter graphs</a>  |     |   |   |   |
| h   | <a href="#">population pyramids</a>   |     |   |   |   |
| i   | suggest an appropriate form of graphical representation for the data provided |     |   |   |   |
| j   | <a href="#">choropleth maps</a>   |     |   |   |   |
| j   | <a href="#">Isoline maps</a>  |     |   |   |   |
| k   | <a href="#">dot maps</a>  |     |   |   |   |
| l   | <a href="#">desire line maps</a>  |     |   |   |   |
| m   | <a href="#">proportional symbol maps</a>                                      |     |   |   |   |
| n   | flow line maps  |     |   |   |   |
| o   | understand and use gradient, contour and value on isoline maps                |     |   |   |   |
| p   | plot information on graphs when axes and scales are provided                  |     |   |   |   |
| interpret and extract information from different types of maps, graphs and charts, including: |   |     |   |   |   |
| q   | population pyramids   |     |   |   |   |
| r   | choropleth maps   |     |   |   |   |
| s   | flow line maps  |     |   |   |   |
| t   | dispersion graphs   |     |   |   |   |

## Numerical skills

|   |  | Y/N | R | A | G |
|---|--|-----|---|---|---|
| a | demonstrate an understanding of number, area and scales, and the quantitative relationships between units  |     |   |   |   |
| b | <a href="#">design fieldwork data collection sheets and collect data with an understanding of accuracy, sample size and procedures, control groups and reliability</a> |     |   |   |   |
| c | understand and correctly use: proportion and ratio   |     |   |   |   |
| d | magnitude and frequency  |     |   |   |   |
| e | <a href="#">draw informed conclusions from numerical data</a>  |     |   |   |   |

## Statistical skills

|   |  | Y/N | R | A | G |
|---|--|-----|---|---|---|
| use appropriate measures of:              |  |     |   |   |   |
| a   | central tendency   |     |   |   |   |
| b   | spread   |     |   |   |   |
| c   | <a href="#">median</a>   |     |   |   |   |
| d   | <a href="#">mean</a>   |     |   |   |   |
| e   | <a href="#">range</a>  |     |   |   |   |
| f   | <a href="#">quartiles and interquartile range</a>                            |     |   |   |   |
| g   | <a href="#">mode and modal class</a>   |     |   |   |   |
| h   | <a href="#">calculate percentage increase or decrease</a>                    |     |   |   |   |
| i   | <a href="#">understand the use of percentiles</a>                            |     |   |   |   |
| describe relationships in bivariate data: |  |     |   |   |   |
| k   | <a href="#">sketch trend lines through scatter plots</a>                     |     |   |   |   |
| l   | <a href="#">draw estimated lines of best fit</a>                             |     |   |   |   |
| m   | <a href="#">make predictions</a>   |     |   |   |   |
| n   | <a href="#">interpolate trends</a>   |     |   |   |   |
| o   | <a href="#">extrapolate trends</a>   |     |   |   |   |
| p   | be able to identify weaknesses in selective statistical presentation of data |     |   |   |   |

[Use of qualitative and quantitative data](#)

|   |   | Y/N | R | A | G |
|---|---|-----|---|---|---|
| a | maps  |     |   |   |   |
| b | fieldwork data                                |     |   |   |   |
| c | geo-spatial data presented in a GIS framework |     |   |   |   |
| d | satellite imagery                             |     |   |   |   |
| e | written and digital sources                   |     |   |   |   |
| f | visual and graphic sources                    |     |   |   |   |
| g | numerical and statistical sources             |     |   |   |   |

## Formulating enquiry and argument

|   |  | Y/N | R | A | G |
|---|--|-----|---|---|---|
| Students should demonstrate the ability to: |  |     |   |   |   |
| a   | identify questions and sequences of enquiry  |     |   |   |   |
| b   | write descriptively, analytically and critically                                     |     |   |   |   |
| c   | communicate their ideas effectively  |     |   |   |   |
| d   | develop an extended written argument   |     |   |   |   |
| e   | draw well-evidenced and informed conclusions about geographical questions and issues |     |   |   |   |



Adapted from [BBC Bitesize](#)

## Quartiles and interquartile ranges

**Quartiles** are the values that divide the list of numbers into equal quarters:



The **interquartile range** is the difference between the upper quartile and lower quartile:



## Calculating percentage increase and decrease

**percentage increase = increase ÷ original number × 100**

For example: the number of robins in a woodland area are counted over two different months. In December 15 robins were counted. In January 23 robins were counted. What is the percentage increase of robins in the woodland?

1. The difference between the two numbers is 8.
2.  $8 \div 15 \times 100 = 53.3$
3. The percentage increase of robins found in the woodland is: 53.3%

**percentage decrease = decrease ÷ original number × 100**

For example: the number of robins in woodland in February and March are counted. In February 22 robins were counted. In March 12 robins were counted. What is the percentage decrease of robins in the woodland?

1. The difference between the two numbers is 10.
2.  $10 \div 22 \times 100 = 45.4$
3. The percentage decrease of robins found in the woodland is: 45.4%

## Scatter graphs, interpolation and extrapolation

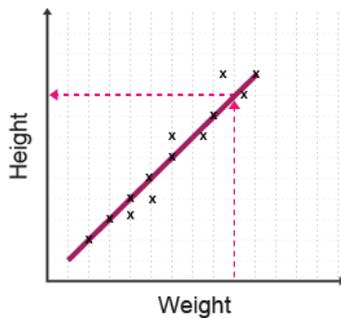
Scatter graphs show the relationship between two sets of data, eg number of tourists and number of tourist facilities or weight and height.

A line of best fit, or trend line, can be added to the scatter graph to show the relationship between the two variables. When drawing a line of best fit or trend line it is important to have as many points as possible going through the line.

A strong correlation is when the points on the scatter graph lie very close to the line of best fit. With a strong correlation, the two variables are related to one another - as one changes, so does the other. A weak correlation is when the points lie far away from the line of best fit. In this case, the two variables are not necessarily related to one another - a change in one does not mean a change in the other.

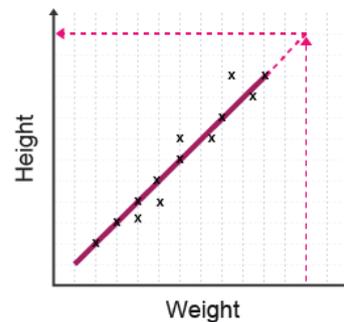
### Interpolate trends

This is when a value is found within the data set, using the line of best fit. The value was not originally plotted, but can be read off the line of best fit.



### Extrapolate trends

This is when a value is found outside of the data set. Extrapolation may provide uncertain results as it is based on extending the line of best fit beyond a known set of data.



## Spearman's rank correlation coefficient

Spearman's rank correlation coefficient offers the opportunity to use a statistical test to determine the strength of any relationship (correlation) between two sets of data. At least ten pairs of data and the following equation are needed:

$$r_s = 1 - \frac{6\sum d^2}{n(n^2 - 1)}$$

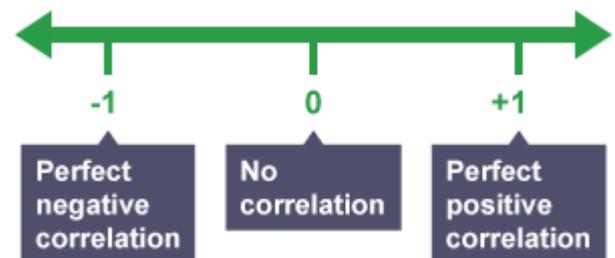
$\Sigma$  means the sum of  $d^2$

$n$  is the number of sets of paired data

$d$  is the difference between pairs of ranked data

Spearman's rank always gives an answer between  $-1$  and  $+1$ . The numbers between are like a scale, where  $-1$  is a very strong link,  $0$  is no link and  $+1$  is also a very strong link.

For example, if Spearman's rank was  $0.8$ , because it is close to  $+1$ , it means that the link is strong and it is possible to say that those two sets of data are linked, and increase together. If it was  $-0.8$ , it is possible to say it was linked and as one increases, the other decreases. If there is no relationship (correlation), a value close to  $0$  would be arrived at.



# Revision Strategies Checklist

Use what works for you, but try to engage with a variety of different ways of revising. Use these suggestions to ensure you are getting a balanced revision diet.

## Paper 1

| Revision Strategy  | Topic | Date/Tick |
|--|-------|-----------|
| Exercise Book Reading/Redrafting                         |       |           |
| Practice Exam Questions                                  |       |           |
| Online Videos (e.g. <a href="#">Time for Geography</a> ) |       |           |
| GCSEpod  |       |           |
| Revision Masterclasses                                   |       |           |
| Other e.g. Flashcards, Revision Clocks                   |       |           |

## Paper 2

| Revision Strategy  | Topic | Date/Tick |
|--|-------|-----------|
| Exercise Book Reading/Redrafting                         |       |           |
| Practice Exam Questions                                  |       |           |
| Online Videos (e.g. <a href="#">Time for Geography</a> ) |       |           |
| GCSEpod  |       |           |
| Revision Masterclasses                                   |       |           |
| Other e.g. Flashcards, Revision Clocks                   |       |           |

## Paper 3

| Revision Strategy  | Topic | Date/Tick |
|--|-------|-----------|
| Exercise Book Reading/Redrafting                         |       |           |
| Practice Exam Questions                                  |       |           |
| Online Videos (e.g. <a href="#">Time for Geography</a> ) |       |           |
| GCSEpod  |       |           |
| Revision Masterclasses                                   |       |           |
| Other e.g. Flashcards, Revision Clocks                   |       |           |