Paper 1

Natural Hazards

Tectonic Hazards

- Volcano/earthquake location
- Plate boundaries (constructive, conservative and destructive)
- Earthquake case study effects and responses:
  - LIC (**Haiti**)
  - HIC (**L'Aquila**)
- Living with tectonic hazards (**Iceland**)
- Limiting earthquake damage
  - Predict, protect, prepare

Weather Hazards

- Global atmospheric circulation
- Tropical storms:
  - Location
  - How/why form
  - Structure
  - How climate change affects them
  - Effects and responses to a tropical storm (**Hurricane Katrina**)
  - Limiting damage (predict, protect, plan)
- Cause, effect and response to UK extreme weather (**Beast from the East**)

Climate Change

- Evidence of climate change
- Causes of climate change:
  - Natural (orbital change, volcanic activity, sunspots)
  - Human (fossil fuels, agriculture, deforestation)
- Effects on people and the environment
- Managing climate change:
  - Mitigation (alternative energy, carbon capture, planting trees, international agreements)
  - Adaptation (change agriculture systems, manage water supply, reduce risk from sea level rise)

Living World

Rainforests

- Location and climate
- Characteristics of rainforests
- Plant and animal adaptations
- Deforestation case study (**Amazon**):
  - Causes (cattle ranching, farming, logging, road building, mining)
  - Impacts (economic, social, environmental)
- Value of rainforests
- Sustainable management of rainforest: (selective logging/replanting, conservation and education, ecotourism, debt reduction, international agreements)

Cold Environments

- Location and climate
- Characteristics of cold environments
- Plant and animal adaptations
- Opportunities and challenges (**Alaska**)
  - Opportunities (mining, energy, fishing, tourism)
  - Challenges (extreme temperature, inaccessibility, buildings/infrastructure)
- Value of cold environments
- Management of cold environments: (use of technology, action by governments, international agreements, conservation groups)

Living World

- Differences between Biomes and Ecosystems
- Location and climate characteristics of different Biomes
- Factors effecting climate of Biomes
- Nutrient Cycle
  - Producers
  - Consumers
  - Decomposer
- Food Chains and Food webs
- Example of a small-scale ecosystem e.g. A pond

Physical Landscapes

Coasts

- Constructive and destructive waves
- Coastal processes:
  - Types of erosion, weathering and mass movement
  - Transportation - longshore drift
- Landforms of erosion:
  - Headland and bay/wave cut platform/ cave-arch-stack-stump
- Landforms of deposition
  - Beaches/sand dunes/spits and bars
- Coastal management costs and benefits:
  - Hard engineering (sea wall, rocks armour, gabions and groynes)
  - Soft engineering (beach nourishment and reprofiling, dune regeneration and managed retreat)
  - Example: **Holderness** (why needed, what was done, effects and conflict)

Rivers

- Long and cross profile of a river
- River processes:
  - Types of erosion and transportation
  - Why rivers deposit sediment
- Landforms of erosion:
  - Valleys and interlocking spurs/waterfalls and gorges/meanders and ox-bow lakes
- Landforms of deposition:
  - Levees, floodplains and estuaries
- Flooding:
  - Natural and human causes
  - Hydrographs for precipitation/discharge
- Flood management:
  - Hard engineering (dams and reservoirs, channel straightening, embankments, flood relief channels)
  - Soft engineering (flood warning and preparation, floodplain zoning, afforestation, river restoration)
  - Example: **Somerset** (why needed, what was done, issues)