

The Challenge of Natural Hazards PLC

Red = Not confident at all
 Amber = Some confidence
 Green = Very confident

	Red	Amber	Green
Natural hazards pose major risks to people and property.			
I can give a definition of natural hazard			
I can identify the different types of natural hazard.			
I know the factors affecting hazard risk.			
Earthquakes and volcanic eruptions are the result of physical processes.			
I know the main features of plate tectonics theory.			
I know the global distribution of earthquakes and volcanic eruptions and their relationship to plate margins.			
I can describe and explain the physical processes taking place at different types of plate margin: Constructive Destructive Conservative that lead to earthquakes and volcanic activity.			
The effects of, and responses to, a tectonic hazard vary between areas of contrasting levels of wealth.			
I know the primary and secondary effects of a tectonic hazard.			
I know the Immediate and long-term responses to a tectonic hazard.			
Using named examples , I can describe and explain how the effects and responses to a tectonic hazard vary between two areas of contrasting levels of wealth.			
Global atmospheric circulation helps to determine patterns of weather and climate.			
I know the main features of the general atmospheric circulation model including pressure belts and surface winds.			

Tropical storms (hurricanes, cyclones, typhoons) develop as a result of particular physical conditions.			
I know the global distribution of tropical storms (hurricanes, cyclones, typhoons).			
I understand the relationship between tropical storms and general atmospheric circulation.			
I can explain the causes of tropical storms and the sequence of their formation and development.			
I can describe the structure and features of a tropical storm.			
I understand how climate change might affect the distribution, frequency and intensity of tropical storms.			
Tropical storms have significant effects on people and the environment.			
I know the primary and secondary effects of tropical storms.			
I know the immediate and long-term responses to tropical storms.			
Using a named example of a tropical storm I can show its effects and responses.			
I know how monitoring, prediction, protection and planning can reduce the effects of tropical storms.			
The UK is affected by a number of weather hazards.			
I know the types of weather hazard experienced in the UK.			
Extreme weather events in the UK have impacts on human activity.			
I know an example of a recent extreme weather event in the UK			
I know the causes of an extreme weather event in the UK			
I know the social, economic and environmental impacts of an extreme weather event in the UK			
I know the management strategies that can reduce the risk associated with an extreme weather event in the UK			
Climate change is the result of natural and human factors, and has a range of effects.			
I know the evidence for climate change from the beginning of the Quaternary period to the present day.			
I can describe and explain the possible causes of climate change: <ul style="list-style-type: none"> • natural factors – orbital changes, volcanic activity and solar output • human factors – use of fossil fuels, agriculture and deforestation. 			
I can give an overview of the effects of climate change on people and the environment.			

Fluvial Environments PLC

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	Red	Amber	Green
The shape of river valleys changes as rivers flow downstream			
I know what the long profile of a river is			
I know how and why the long profile of a river changes from source to mouth			
I know the characteristics of the cross profile of a river in the upper, middle and low course			
I know how and why the characteristics of the cross profile of a river in the upper, middle and low course change			
I know the characteristics of the cross profile of a river valley in the upper, middle and low course			
I know how and why the characteristics of the cross profile of a river valley in the upper, middle and low course change			
I can describe and explain the 4 main processes of fluvial erosion			
I can describe and explain the 4 main processes of fluvial transportation			
I know why rivers deposit sediment			
I know where and why rivers deposit sediment			
Distinctive fluvial landforms result from different physical processes.			
I know the characteristics and formation of landforms resulting from erosion: <ul style="list-style-type: none"> • interlocking spurs • waterfalls • gorges 			
I know the characteristics and formation of landforms resulting from erosion and deposition: <ul style="list-style-type: none"> • meanders • ox-bow lakes 			
I know the characteristics and formation of landforms resulting from deposition: <ul style="list-style-type: none"> • levées • flood plains • estuaries 			
I know an example of a river valley in the UK to identify its major landforms of erosion and deposition.			

Different management strategies can be used to protect river landscapes from the effects of flooding.

<p>I know how physical factors affect the flood risk:</p> <ul style="list-style-type: none"> • precipitation • geology • relief 			
<p>I know how human factors affect the flood risk:</p> <ul style="list-style-type: none"> • landuse 			
<p>I know how to use hydrographs to show the relationship between precipitation and discharge.</p>			
<p>I can describe and explain the costs and benefits of hard engineering strategies:</p> <ul style="list-style-type: none"> • dams and reservoirs • straightening • embankments • flood relief channels 			
<p>I can describe and explain the costs and benefits of soft engineering strategies:</p> <ul style="list-style-type: none"> • flood warnings and preparation • flood plain zoning • planting trees • river restoration 			
<p>I know an example of a flood management scheme in the UK to show:</p> <ul style="list-style-type: none"> • why the scheme was required • the management strategy • the social, economic and environmental issues 			

Coastal Environments PLC

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The coast is shaped by a number of physical processes			
I know the different wave types and their characteristics			
I know the processes of coastal weathering, e.g. mechanical and chemical weathering			
I know the process of mass movement e.g. slumping, rock falls and land slides			
I know the processes of coastal erosion e.g. hydraulic action, abrasion and attrition			
I know the processes of coastal transportation e.g. longshore drift			
I know the processes of coastal deposition and why sediment is deposited			
Distinctive coastal landforms are the result of rock type, structure and physical processes			
I understand how geological structure and rock type influence coastal forms			
I know the characteristics and formation of landforms resulting from erosion e.g. headlands and bays, cliffs and wave cut platforms, caves, arches, stacks and stumps.			
I know the characteristics and formation of landforms resulting from deposition e.g. spits, bars, beaches and sand dunes.			
I know a case study / example of a section of coastline in the UK to identify its major landforms of coastal erosion and deposition.			
Different management strategies can be used to protect coastlines from the effects of physical processes.			
I know the coasts and benefits of hard engineering e.g. sea walls, rock armour, gabions and groynes.			
I know the coast and benefits of soft engineering e.g. beach nourishment, reprofiling and dune regeneration.			
I know the coasts and benefits of managed retreat e.g. coastal realignment.			
Case Study			
I know a case study of an example of a coastal management scheme in the UK to show why management strategies are needed.			
I know a case study of an example of a coastal management scheme in the UK to show the management strategies used.			
I know a case study of an example of a coastal management scheme in the UK to show resulting effects and conflicts.			

The Living World PLC

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Ecosystems exist at a range of scales and involve the interaction between biotic and abiotic components.			
I know what an ecosystem is			
I know an example of a small-scale ecosystem			
I know the interrelationships within an ecosystem (how things are linked)			
I understand the nutrient cycle			
I know the main features of a food chain			
I know the main features of a food web			
I know the impact of changes to one component in an ecosystem			
I know the distribution of the world's main biomes			
I know the characteristics of large scale natural global ecosystems (biomes)			
Tropical rainforest ecosystems have a range of distinctive characteristics.			
I know the physical characteristics of a tropical rainforest			
I know how climate, water, soils, plants, animals and people are interdependent in the tropical rainforest			
I know how plants have adapted to physical conditions of the tropical rainforest			
I know how animals have adapted to physical conditions of the tropical rainforest			
I know how and why the tropical rainforest ecosystem has a high biodiversity			
Deforestation has economic and environmental impacts.			
I know the changing rates of deforestation in the tropical rainforest			
Using a case study, I know the causes of deforestation in the tropical rainforest			
Using a case study, I know the impacts of deforestation in the tropical rainforest			
Tropical rainforests need to be managed to be sustainable.			
I know the value of tropical rainforests to people and the environment			
I can identify, describe and explain a range of strategies to manage the tropical rainforest ecosystem at a local scale			
I can identify, describe and explain a range of strategies to manage the tropical rainforest ecosystem at an international scale			

You will have studied either a hot or cold ecosystem environment. You only need to review your knowledge and understanding of one of the ecosystems below.

Hot Desert Ecosystems

Red	Amber	Green
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Hot desert ecosystems have a range of distinctive characteristics.			
I know the physical characteristics of a hot desert			
I know how climate, water, soils, plants, animals and humans are interdependent.			
I know how plants have adapted to the physical conditions of the hot desert ecosystem			
I know how animals have adapted to the physical conditions of the hot desert ecosystem			
I understand the issues relating to biodiversity in the hot desert ecosystem.			
Development of hot desert environments creates opportunities and challenges.			
Using a case study, I can describe and explain the development opportunities in hot desert environments including mineral extraction, energy, farming and tourism			
Using a case study, I can describe and explain the challenges of developing hot desert environments including extreme temperatures, water supply and inaccessibility			
Areas on the fringe of hot deserts are at risk of desertification.			
I can describe and explain the causes of desertification including climate change, population growths, removal of fuel wood, overgrazing, over-cultivation and soil erosion.			
I can describe and explain a range of strategies used to reduce the risk of desertification – water and soil management, tree planting and use of appropriate technology.			

Urban Issues and Challenges PLC

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A growing percentage of the world's population lives in urban areas.			
I know the global pattern of urban change.			
I understand urban trends in different parts of the world including HICs and LICs.			
I can explain the factors affecting the rate of urbanisation – migration (push–pull theory), natural increase.			
I can describe and explain the emergence of megacities.			
Urban growth creates opportunities and challenges for cities in LICs and NEEs.			
I know a case study of a major city in an LIC or NEE to illustrate:			
<ul style="list-style-type: none"> the location and importance of the city, regionally, nationally and internationally 			
<ul style="list-style-type: none"> the causes of growth: natural increase and migration 			
<ul style="list-style-type: none"> how urban growth has created opportunities: <ul style="list-style-type: none"> social: access to services – health and education; access to resources – water supply, energy economic: how urban industrial areas can be a stimulus for economic development 			
<ul style="list-style-type: none"> how urban growth has created challenges: <ul style="list-style-type: none"> managing urban growth – slums, squatter settlements providing clean water, sanitation systems and energy providing access to services – health and education reducing unemployment and crime managing environmental issues – waste disposal, air and water pollution, traffic congestion. 			
I know an example of how urban planning is improving the quality of life for the urban poor and can explain its main features			
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 the major cities in the UK.			
I know a case study of a major city in the UK to illustrate:			
<ul style="list-style-type: none"> the location and importance of the city in the UK and the wider world 			
<ul style="list-style-type: none"> the impacts of national and international migration on the growth and character of the city 			
<ul style="list-style-type: none"> how urban change has created opportunities: <ul style="list-style-type: none"> social and economic: cultural mix, recreation and entertainment, employment, integrated transport systems 			

<ul style="list-style-type: none"> • environmental: urban greening 			
<ul style="list-style-type: none"> • how urban change has created challenges: <ul style="list-style-type: none"> • social and economic: urban deprivation, inequalities in housing, education, health and employment • environmental: dereliction, building on brownfield and greenfield sites, waste disposal • the impact of urban sprawl on the rural–urban fringe, and the growth of commuter settlements. 			
<p>I know an example of an urban regeneration project to show:</p> <ul style="list-style-type: none"> • reasons why the area needed regeneration • the main features of the project. 			
<p>Urban sustainability requires management of resources and transport.</p>			
<p>I know the main features of sustainable urban living:</p> <ul style="list-style-type: none"> • water and energy conservation • waste recycling • creating green space. 			
<p>I can explain how urban transport strategies are used to reduce traffic congestion.</p>			

The Changing Economic World PLC

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There are global variations in economic development and quality of life.			
I know the different ways of classifying parts of the world according to their level of economic development and quality of life.			
I know the different economic and social measures of development: gross national income (GNI) per head, birth and death rates, infant mortality, life expectancy, people per doctor, literacy rates, access to safe water, Human Development Index (HDI).			
I know the limitations of economic and social measures.			
I know the link between stages of the Demographic Transition Model and the level of development.			
I know the causes of uneven development: physical, economic and historical.			
I know the consequences of uneven development: disparities in wealth and health, international migration.			
Various strategies exist for reducing the global development gap.			
I can give an overview of the strategies used to reduce the development gap: investment, industrial development and tourism, aid, using intermediate technology, fair trade, debt relief, microfinance loans.			
I know an example of how the growth of tourism in an LIC or NEE helps to reduce the development gap.			
Some LICs and NEEs are experiencing rapid economic development which leads to significant social, environmental and cultural change.			
I know a case study of one LIC or NEE to illustrate:			
• the location and importance of the country, regionally and globally			
• the wider political, social, cultural and environmental context within which the country is placed			
• the changing industrial structure. The balance between different sectors of the economy. How manufacturing industry can stimulate economic development			
• the role of transnational corporations (TNCs) in relation to industrial development. Advantages and disadvantages of TNC(s) to the host country			
• the changing political and trading relationships with the wider world			
• international aid: types of aid, impacts of aid on the receiving country			

• the environmental impacts of economic development			
• the 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. I know:			
<ul style="list-style-type: none"> the causes of economic change: de-industrialisation and decline of traditional industrial base, globalisation and government policies 			
<ul style="list-style-type: none"> how the UK is moving towards a post-industrial economy: development of information technology, service industries, finance, research, science and business parks 			
<ul style="list-style-type: none"> the impacts of industry on the physical environment. An example of how modern industrial development can be more environmentally sustainable 			
<ul style="list-style-type: none"> the social and economic changes in the rural landscape in one area of population growth and one area of population decline 			
<ul style="list-style-type: none"> the improvements and new developments in road and rail infrastructure, port and airport capacity 			
<ul style="list-style-type: none"> the north–south divide. Strategies used in an attempt to resolve regional differences 			
<ul style="list-style-type: none"> the place of the UK in the wider world. Links through trade, culture, transport, and electronic communication. Economic and political links: the European Union (EU) and Commonwealth. 			

The Challenge of Resource Management PLC

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	Red	Amber	Green
Food, water and energy are fundamental to human development			
I know how important food, water and energy are to economic and social well-being.			
I have an overview of global inequalities in the supply and consumption of resources.			
The changing demand and provision of resources in the UK create opportunities and challenges. An overview of resources in relation to the UK: Food			
I know there is a growing demand for high-value food exports from low income countries.			
I know there is a growing all-year demand for seasonal food and organic produce.			
I understand how large carbon footprints are associated with the increased number of 'food miles' travelled and moves towards local sourcing of food.			
I understand the trend towards agribusiness.			
The changing demand and provision of resources in the UK create opportunities and challenges. An overview of resources in relation to the UK: Water			
I know the changing demand for water in the UK.			
I can discuss water quality and pollution management.			
I know how the UK matches supply and demand for water and the areas of deficit and surplus.			
I understand the need for transfer to maintain water supplies.			
The changing demand and provision of resources in the UK create opportunities and challenges. An overview of resources in relation to the UK: Energy			
I know how the energy mix in the UK is changing from reliance on fossil fuels and the growing significance of renewables.			
I know how supplies of coal, gas and oil have reduced in the UK.			
I know the economic issues associated with exploitation of energy issues.			
I know the environmental issues associated with the exploitation of energy resources.			

Energy

	Red	Amber	Green
Demand for energy resources is rising globally but supply can be insecure, which may lead to conflict.			
I know the global distribution of energy consumption and supply.			

I know the reasons for increasing energy consumption: economic development, rising population, technology.			
I know the factors affecting energy supply: physical factors, cost of exploitation and production, technology and political factors.			
I know the 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.			
I can give an overview of strategies to increase energy supply including renewable (biomass, wind, hydro, tidal, geothermal, wave and solar) and non-renewable (fossil fuels and nuclear power) sources of energy.			
I know an example to show how the extraction of a fossil fuel has both advantages and disadvantages.			
I know the potential for sustainable energy supplies: 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.			
I know an example of a local renewable energy scheme in an LIC or NEE to provide sustainable supplies of energy.			