Year 7-9 Age Related Expectations-

Age-related expectations identify what is expected of our learners by a specified age, stage or year group. Our curriculum defines these as a set standard of expectations which are defined either as exemplars, descriptors or questions.

Subject statement-

ARE's In KS3 Geography, age related expectations are made up of three simple elements:

1. What students are expected to **know** (i.e. the facts, keywords etc)
2. What students can **understand** (i.e. skills)
3. What students are expected to be able to **apply** (i.e. the application of knowledge and skills to a particular question)

In real terms, this means that the progression model is based on:

1. Knowledge organisers
2. Model answers
3. Skills statements linked to Big ideas of the topic

By the end of year 7 students will:

Know:

Key terms	
Atlas	A book that contains different human and physical maps of different places in a variety of scales.
Biome	Large-scale ecosystem eg. tropical rainforest.
Continent	One of seven land masses (Europe, Asia, Africa, North and South America, Australasia, Antarctica). Continents can contain several countries.
Country	An internationally-recognised area of land, with its own name, flag and governance.
Ecosystem	A community of plants and animals that interact with each other and their physical landscape.
Food chain	A diagram that shows the connections between different organisms (plants and animals) that rely upon one another as their source of food.
Food web	A diagram that shows a complex hierarchy of organisms (plants and animals) that rely on each other for food.
Grid reference	A method of locating a point on a map or plan using a number that refers to the lines on the grid and the subsections between them.
Ocean	A large body/expanse of water that covers 71% of the Earth's surface. The Earth has one global ocean divided into several smaller oceans and containing seas.
OS map	A detailed map that shows different locations and the human and physical features found at each location.

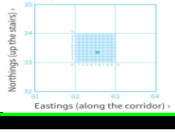
KPI 1 Continents and oceans

Year 7 introduction to geography and ecosystems Knowledge Map

KPI 2 and KPI 3 Four and six figure grid references

There are two main types of grid references:
- Four figure: This indicates a single km square on an OS map.
- Six figure: This indicates a point within a single km square on an OS map.

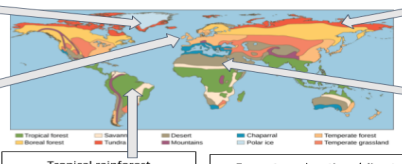
To find these grid references you must read along the corridor then up the stairs. This gives you the bottom left corner of the grid square/point you're trying to find.



KPI 4 Atlas skills

Using an Atlas is easy… as long as your follow the rules.
1. Look up the place using the Index at the back of the book.
2. The number in bold is the page number and the letter and number after it is the grid reference.
3. Turn to the page and look up the grid reference.
4. Somewhere in that box you will find your place

KPI 5 Worlds biomes



Polar
Located in the Arctic and Antarctic.
Cold and dry.

Tundra
Located between 60 and 70 degrees north of the equator.
Cold, windy and dry.

Temperate forest
Located between 50 and 60 degrees north of the equator.
Four distinct seasons.

Hot desert
Located between 15 and 30 degrees north and south of the equator.
Hot and dry.

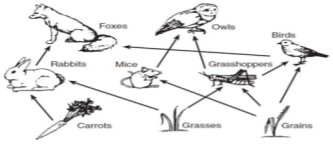
Tropical rainforest
Located between the tropics.
Hot and wet.

Ecosystems locations/climates are determined by the global atmospheric circulation and the suns concentration.

Key terms	
Adaptation	A change in a plant or animal so it becomes better suited to survive in its environment.
Climate Graphs	A data presentation technique that shows the temperature and the rainfall of a country over one year using lines and bars.
Commercial farming	Growing crops or raising livestock for profit, often involving vast areas of land.
Desertification	The process by which land becomes drier and degraded as a result of climate change, human activities or both.
Irrigation	Artificial application of water to the land or soil.
Mineral extraction	Removal of solid mineral resources from the earth.
Subsistence farming	A type of agriculture producing only enough food and materials for the benefit of a farmer and their family.
Tourism	The commercial organisation and operation of holidays and visits to places of interest.

KPI 6 Food chains and food webs

Any changes to the one step of a food web or chain can affect the whole ecosystem. For example if a producer was removed then there would be a shortage of food for the consumers.



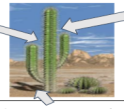
Year 7 introduction to geography and ecosystems Knowledge Map

KPI 7 and 8 Plant and animal adaptations in hot deserts

Store fat in their hump to convert to energy so they can travel long distances.

Long eyelashes to prevent sand blowing into their eyes.

Wide feet to stop them sinking in the sand.



Store water to survive periods of drought.

Small leaves or spines to reduce water loss

Deep or wide root systems to find water.

KPI 9 Threats to hot deserts

Tourism, people visit the desert due to the beautiful landscapes available to explore.

Farming, most people living in desert areas are involved in subsistence farming.

Mineral extraction, minerals such as gypsum are valuable and can be sold and exported.

Energy, deserts are a rich energy source for coal, oil, wind and solar energy.

KPI 10 and 11 Managing hot deserts

Irrigation, water from underground sources, rivers and canals can be collected and sprayed onto crops or used to flood fields artificially. This helps increase crop production.

Appropriate technology, this involves using methods and materials that are appropriate to the areas level of development. This can also make approaches more sustainable.

Apply:

With reference to your methods and presentation techniques, suggest how your investigation could be improved.

One limitation of our investigation was that our data presentation was confusing because there was a lot of data. For example, we collected six readings from each location for both wind speed and temperature. This was a problem because our charts were difficult to read. This could be improved by working out the mean wind speed and temperature for each location and use this data to plot on the graphs. This would improve the investigation because it would make the graphs clearer.

In conclusion, I feel that the results from our investigation were valid because we took steps to make the data more accurate, such as taking several readings at each location. However, the data might not be completely reliable because the Beaufort Scale is subjective and anemometers would produce more accurate results.

Understand

Big idea	AREs
Place/ location	• Be able to identify continents, oceans, specific features, landmarks and glacial landscapes on a world map, atlas and OS map. • Be able to identify and describe the location and characteristics of different biomes around the world (with a focus on hot deserts). • Be able to identify and describe trends in population, opportunities and challenges of different population structures using examples. • Be able to describe UK weather and climate.
Space	• Be able to describe how OS maps and atlases can represent different spaces and locations. • Be able to describe how different biomes are formed in different spaces over time. • Be able to describe and explain the movement of people between places. • Be able to identify areas with different climates and describe what human and physical factors cause this.
Scale	• Be able to identify and describe patterns and networks on local, national and international scales. • Be able to describe how OS maps and atlases can represent different spaces and locations on multiple scales. • Be able describe how weather and climate vary on local, national and international scales. • Be able to describe and begin to explain how human activity is reducing glacial landscapes on local, national and international scales.
Relationship	• Be able to identify and describe some global connections between people, place and space and how this can impact the environment. • Be able to describe how glacial features are connected to other geographical features and the development of the UK's landscape. • Be able to describe the relationship between push and pull factors and the trends in migration.
Sustainability	• Be able to identify, describe and explain the impact of human activity on the natural world and ecosystems. • Be able to describe and explain the challenges of living sustainably.
Processes	• Be able to identify and describe how an OS map shows the formation of physical and human spaces across the world. • Be able to describe and explain the processes leading to the formation of different population structures. • Be able to describe and explain the formation of different weather patterns, glacial features and rainfall around the world.
Geographical skills	• Be able to use a world map, atlas and OS map to identify features and locations. • Be able to use some cartographical skills, map skills and mathematical skills to interpret information. • Be able to understand how to apply skills, knowledge and understanding to a particular issue in secondary resources to come to an informed decision.

By the end of year 8 students will:

Know:

Year 8 Water world Knowledge Map

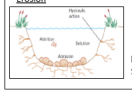
Key terms	
Agriculture	The science and practice of farming, including cultivation of the soil for the growing of crops and the rearing of animals.
Deforestation	The cutting down and removal of forest.
Deposition	This occurs when material being transported by a river or the sea is dropped due to the water losing energy.
Erosion	The wearing away and removal of material by a moving force.
Geology	The study of rocks, minerals and landforms.
Hard engineering	Using concrete or large artificial structures to defend against natural processes.
Hydrograph	A graph showing the discharge (line) and rainfall (bar) over a period of time.
Landscape	An extensive area of land regarded as being visually and physically distinct.
Longshore drift	This is the transportation of sediment along a stretch of coastline caused by waves approaching the beach at an angle.
Precipitation	Moisture falling from the atmosphere eg. rain, snow or sleet.
Relief	The height and shape of land.
Soft engineering	Managing erosion by working with natural processes to help restore beaches and rivers to reduce the risk of flooding.
Stakeholders	These are individuals, groups or businesses who have an invested interest in something.
Transportation	The movement of eroded material.
Urbanisation	When an increasing percentage of a country's population comes to live in towns and cities.

KPI 1 Why are rivers and coasts important?

- Water supply for people living in the UK which is used in cooking, transport, industry, hygiene, heating systems and drinking.
- Trading goods (buying and selling products) with the rest of the World via boat/ship on rivers and on the coast.
- Holidaymakers are often attracted to landscapes with rivers and/or the coast. This also provides jobs for people.
- Help prevent flooding as rivers act as a route for water to flow towards the sea.
- Rivers, seas/oceans and coastlines are a habitat for many different plants and animals.
- Water can be used to create energy in the form of Hydroelectric Power. This then heats and powers homes as well as being used in industry and transport.

KPI 2 Processes

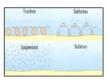
Erosion



Hydraulic action: Force of the water wears away rock.
Abrasion: Sediment hits against the surface.
Attrition: Material hits together and becomes smaller and more rounded.
Solution: Acidic water dissolves rock.

Deposition
This is when material being transported is dropped.

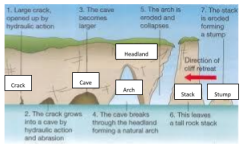
Transportation



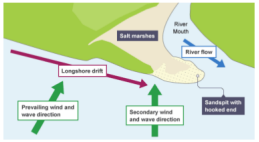
Traction: Rolling.
Saltation: Bouncing.
Suspension: Carried.
Solution: Dissolved.
Longshore drift: Movement of sediment along a coastline caused by waves approaching the beach at an angle.

KPI 3 and 4 Coastal erosional and depositional landforms

Erosional landforms



Depositional landforms



KPI 5 Holderness coastline

Key facts: The Holderness coastline stretches from Flamborough Head to Spurn Head and is eroding at an average of 1.8m per year.

Causes of erosion: The cliffs are made of boulder clay which is easily eroded by the destructive wave the prevailing wind brings from the Atlantic Ocean. Naturally narrow beaches provide little protection and coastal defenses have led to increased erosion further down the coast.

Impacts of erosion: Homes are collapsing into the sea leading to a decline in property prices. Roads are at risk of collapse leaving some areas inaccessible. Easington gas terminal is 25m from the cliff edge and provides 25% of the UK's gas supply. 80,000m2 of farmland is lost each year to coastal erosion and flooding.

KPI 8 Who would prefer which management strategy?

Different people or groups of people will have differing views on how the coast should be managed by erosion and flooding. Some examples are listed below.

Family on holiday: Would want safe access to the beach and a lush sandy beach for children to play on (eg soft engineering beach nourishment).
Homeowners: Would want their house to be protected (eg hard engineering sea wall).
Fisherman: Would want little disturbance to the natural fishing grounds (eg soft engineering dune regeneration).
Business Owner: Would want their business to be protected (eg hard engineering rock armour).
Member of a Walking Group: Would want interesting landscapes to walk on (eg soft engineering dune regeneration).
Environmentalist: Would want as little damage to the landscape as possible but also species to be protected (eg soft engineering dune regeneration).

KPI 6 and 7 Coastal management strategies

Hard engineering


Sea wall


Rock armour

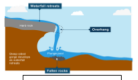
Soft engineering


Beach nourishment


Dune regeneration

KPI 9 and 10 River erosional and depositional landforms.

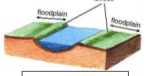
Erosional landforms


Waterfalls and gorges

Erosional and depositional landforms


Meander

Depositional landforms

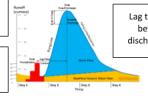


Floodplains and levees

KPI 11 Why do rivers flood? KPI 12 Hydrographs

Rivers flood due to multiple different factors these include: prolonged and heavy rainfall, geology, relief, land use, deforestation and urbanisation.
A hydrograph shows the discharge (line) and rainfall (bar) of a river over a period of time.

Peak discharge: The highest discharge value.



Lag time: The time between peak discharge and peak rainfall.

Peak rainfall: The highest rainfall value.

KPI 13 Effects of river flooding

Damages homes.
Cost of rebuilding.
Lost businesses and therefore income.
Loss of agricultural land.
Damage to habitats and ecosystems.
Looting.

Apply:

"Humans are the biggest threat to the Earth." To what extent do you agree with this statement?

I think that the biggest threat to the Earth are human caused disasters. This is because the impacts are the most significant and widespread for example climate change. This caused many environmental impacts such as the melting of the polar ice caps. This has caused many animals such as the Polar Bear to be without as a source of food causing them to starve. Another impact is coral bleaching causing entire ecosystems to collapse.

However, there are other physical threats to the Earth such as the Birmingham 2005 tornado. This caused many social and economic impacts to the area such as a primary school closing due to the damage and the £40 million cost of repair to the city.

Another human threat to planet Earth is plastic pollution. The most significant impact of this disaster is the Pacific Ocean Garbage Patch. This is because many marine animals such as the turtle eat the plastic, and this can cause damage to their insides causing them to die.

Overall, I think that the biggest threat to Earth is humans. This is because, whilst natural disasters can have widespread impacts, they normally only affect certain areas. However, human disasters are causing global issues.

Understand:

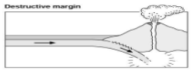
Big idea	AREs
Place/ location	• Be able to describe the location of rivers, coasts and hazards around the world. • Be able to use named examples to identify, describe and explain sites and impacts of tourism and development.
Space	• Be able to describe and explain how hazards and coastal/river processes can impact spaces in the UK. . • Be able to describe global patterns of tourism.
Scale	• Be able to describe and explain the importance of water on local, national and international scales. • Be able to describe and explain how natural processes can impact places on local, national and international scales. • Be able to describe and explain how the impacts and responses of hazards vary on local, national and international scales. • Be able to describe and explain spheres of influence of tourist attractions on local, national and international scales.
Relationships	• Be able to describe and explain how natural processes are connected. • Be able to describe and explain the impact of people on the natural environment. • Be able to describe and explain the relationship between a country's level of development and its level of economic development and social wellbeing.
Sustainability	• Be able to describe and explain sustainable ways of managing water. • Be able to explain and evaluate the sustainability of human activity in relation to human-induced hazards. • Be able to describe and explain how tourism and development can be made sustainable.
Processes	• Be able to identify, describe and explain the processes of erosion, transportation and deposition. Then explain how these processes create river and coastal landforms. • Be able to describe and explain the processes that lead to the formation of different hazards. • Be able to define and describe mass tourism and the multiplier effect. • Be able to describe and explain the causes of uneven development.
Geographicals kills	• Be able to use a world map, atlas and OS map to identify features and locations. • Be able to use some cartographical skills, map skills and mathematical skills to interpret information. • Be able to understand how to apply skills, knowledge and understanding to a particular issue in secondary resources to come to an informed decision.

By the end of year 9 students will:

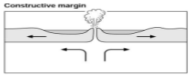
Know:

Key terms	
Continental crust	This is a thicker, less dense section of crust found with continents above it.
Convection currents	These are circular movements of heat in the mantle that cause the crust and plates to move.
Core	The very hot, very dense center of the earth.
Crust	The outermost shell of the earth which is broken up into pieces called tectonic plates.
Geological hazards	This is an extreme natural event caused in the crust of the earth that pose a threat to life and property eg. earthquake, volcanic eruption and tsunami.
Mantle	The mostly-solid bulk of the earth's interior below the crust.
Mercalli scale	This measures the amount of damage caused by an earthquake.
Meteorological hazards	This is an extreme natural event caused by atmospheric patterns or conditions that pose a threat to life and property eg. tropical storms, flooding and drought.
Oceanic crust	This is a thinner, denser section of crust found under oceans.
Plate margin	The border between two tectonic plates.
Richter scale	This measures the magnitude of an earthquake on a scale of 1-10.
Tectonic plate	A large, irregularly shaped slab of solid rock composed of both oceanic and continental crust.

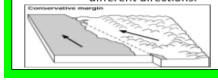
KPI 3 Plate margins



This occurs when two plates converge (one oceanic and one continental), the oceanic plate is subducted.



This occurs when two plates slide alongside each other, in the same or different directions.



This occurs when two plates diverge or move apart and rising magma adds new material to plates.

Year 9 Natural hazards Knowledge Map

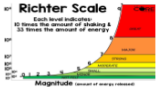
KPI 1 What is a natural hazard and KPI 2 Plate tectonic theory

There are two main groups of natural hazard they are meteorological and geological. The hazard risk is the chance or probability of being affected by a natural hazard. Hazard risk can be affected by vulnerability, capacity to cope and the nature of the natural hazard.

Plate tectonic theory looks at how plates have moved over time by convection currents. The continents were once joined together called Pangea.

KPI 4 Measuring earthquakes

The richter scale measures the magnitude of an earthquake using a seismograph.



The mercalli scale measures the amount of damage caused by the earthquake using a descriptive scale.

KPI 5-7 Nepal earthquake 25/4/2015

Location and cause	Located north east of India in Asia, 7.9 hit north of Kathmandu on a destructive plate margin.
Primary Impacts	9000 dead and 22000 injured, 800,000 buildings damaged or destroyed with 4 million left homeless. Cost of damage = $5 billion
Secondary Impacts	The earthquake triggered avalanche on Mount Everest, killing 18 people. Kathmandu's UNESCO Heritage Site was destroyed which means less tourism
Immediate responses	90 percent of soldiers from the Nepalese army mobilized to worst hit areas The Red Cross provided tents for 225,000 people. Rescue teams sent from other countries such as China
Long –term responses	A recovery phase started 6 months later by the UN to expand crop productions and repair irrigation channels. Nepal's government reported that 23 areas needed rebuilding.

KPI 8-10 Christchurch earthquake 14/11/2016

Location and cause	Kaikoura, New Zealand. 7.9 magnitude - Destructive and conservative margin.
Primary Impacts	2 people died and 50 injured, tens of thousands of homes damaged or destroyed with 60 people needing emergency shelter and the cost of damage = $8.5 billion.
Secondary Impacts	Triggered 100000 landslides which blocked major roads and railway lines and tsunami waves above 5m hit land causing debris 250m inland
Immediate responses	200 evacuated within 24 hours , 30,000 chemical toilets were provided and $6 millions of international aid was sent
Long –term responses	$898 million paid in insurance claims and 80% of roads were repaired within 6 months

Key terms	
Epicentre	The point on the earth's surface vertically above the focus during an earthquake.
Focus	The point inside the crust where the pressure is released during an earthquake.
Immediate responses	The reaction of people as the disaster happens and in the aftermath directly after the hazard.
Long-term responses	These are delayed reactions that occur weeks, months and years after the event.
Monitoring	This involves recording physical changes to help forecast when and where a hazard might strike e.g.tracking a tropical storm by satellite.
Planning	These are actions taken before a hazard strike to enable communities to respond to and recover from hazards more effectively e.g.evacuation routes.
Predict	This process involves using historical evidence to make an educated guess about when and where a tectonic hazard may happen.
Primary effects	These are the initial impacts of a natural event on people and property, caused directly by it e.g.building collapsing following an earthquake.
Protection	These are actions taken before a hazard strikes to reduce its impact e.g.improving building design.
Ridge push	This is when gravity causes a ridge to push on the lithosphere and move the tectonic plates.
Secondary effects	The after-effects that occur as indirect impacts of a natural event, sometimes over a larger timescale eg. fires due to ruptured gas mains resulting from the ground shaking.
Slab pull	These are large and dense tectonic plates sinking into the mantle at ocean trenches.

KPI 11 Avalanches and KPI 12 Kashmir avalanche

Location and cause	February 2010, 50 km west of the Srinagar and triggered by falls and rain and snow.
Impacts	70 people buried under the snow , 17 soldiers injured, 17 dead and 53 rescued.
Responses	Rescue teams sent out immediately and heavy snow and high winds blocked the main highway making rescue efforts difficult.

Year 9 Natural hazards Knowledge Map

KPI 14 Tsunamis, KPI 15 Japan tsunami and KPI 16 Boxing day tsunami

Japan tsunami	
Location and cause	11 March 2011 The earthquake measuring more than magnitude 9. The earthquake caused the seafloor to uplift, displacing the seawater above.
Impacts	15,894 people died. More than 2,500 are still reported missing. The first tsunami wave struck less than an hour after the earthquake and reached up to 10km inland, they flooded an area of 217km2. The tsunami caused a cooling system failure at the Fukushima Daiichi nuclear power plant which resulted in a level-7 nuclear meltdown.
Responses	Short-term aid, such as water purification tablets, temporary housing and medical supplies were given from international countries. Scientists arrived following the tsunami and began dropping sensors along the faultline to measure the forces that caused the earthquake, to help make better predictions in the future.

Boxing day tsunami	
Location and cause	26 December 2004 The earthquake measuring more than magnitude 9. The earthquake caused the seafloor to uplift, displacing the seawater above.
Impacts	250,000 people died. Two million people were made homeless. People were swept away in the waters, which arrived rapidly and with little warning. Thirteen countries were affected, the worst being Indonesia. Indonesia was hit by the tsunami first. Forty-five minutes later the tsunami reached Thailand.
Responses	Short-term aid, such as water purification tablets, temporary housing and medical supplies were given from international countries. Islands reliant on tourism and fishing, such as the Maldives, had to rebuild their industries. An early warning system between countries surrounding the Indian Ocean has been set up.

KPI 17-19 Wildfires and Australian bushfires

Location and cause	South West Australia in New South Wales A combination of extreme heat, prolonged drought and strong winds.
Impacts	33 deaths 18 millions hectares of Australia has been burnt 1 billion animals have died including koalas Air pollution in many areas including Canberra the capital city Smoke drifted across to other countries like New Zealand and even Argentina State of emergency declared in many areas of New South Wales
Responses	Fundraising events happened around the world often led by celebrities – the singer Pink donated $500,000 Food and goods were donated Extra firefighters and troops sent to the areas including firefighters from the USA

KPI 20-21 Heatwaves and the European heatwave

Location and cause	Europe August 2003. An period of extreme heat that is thought to be the warmest in 500 years.
Impacts	20,000 deaths Low river flows, lake levels and general water supplies. Forest fires caused increased destruction. Heat Stroke, dehydration, sunburn and drowning were some of the main human impacts. Reduced agriculture and increased pollution of the air and water.
Responses	Aid from the European Union. Hose pipe bans to save limited water supplies. Announcements to aid in the public coping. Train speed restrictions were introduced. Reduced working hours. Improved warning systems and alert systems across Europe.

Apply:

Choose either an earthquake or a volcanic eruption. Assess the extent to which primary effects are more significant than secondary effects. Use Figure 5a or 5b and an example you have studied

The Haiti earthquake had a magnitude of 7.0.

This was very devastating as the energy released from the tension between plate margins caused a massive domino effect in Port au Prince, Haiti. Primary effects included the destruction of land structures such as houses, business buildings and the local infrastructure. As Haiti is an LIC (means the quality of their infrastructure is of low quality and quite cheap thus most likely not being earthquake proof) the effects were greater. The earthquake itself caused primary effects including destruction at habitat over a large scale and killing around 316,000 people.

Secondary effects included collapsing buildings which killed people and the shortage of healthcare professionals due to the majority of people dying. In terms of damage, primary effects were a lot more severe but secondary effects aren't as significant due to the majority of the damage taking place from the actual earthquake.

Understand:

Big idea	AREs
Place/ location	• Be able to identify and describe the location and direction of continents and oceans, places, buildings, physical features and landmarks on a world map, atlas and OS map. • Be able to identify, describe and explain the location and distribution of a variety of hazards, resources and plastic pollution.
Space	• Be able to describe and explain how OS maps and atlases can represent different spaces and locations. • Be able to describe and explain how the impacts of hazards vary in different spaces. • Be able to describe and explain how plastic pollution creates new spaces (plastic islands).
Scale	• Be able to describe and explain how the impacts and responses of hazards vary on local, national and international scales. • Be able to describe, explain and evaluate how resource equality varies and how it can be addressed on local, national and international scales. • Be able to describe, explain and evaluate how plastic pollution impacts people and the environment on local, national and international scales.
Processes	• Be able to identify, describe and explain global connections between people, place and space. • Be able to describe and explain links between human and physical features and how they are interdependent on one another. • Be able to describe and explain the impact of people on the natural environment.
Sustainability	• Be able to describe, explain and evaluate the impact of human activity on the natural world. • Be able to describe, explain and evaluate the sustainability of human activity in relation to human-induced hazards. • Be able to describe, explain and evaluate the sustainability of current resources and future attempts to manage resource supplies. • Be able to describe, explain and evaluate the sustainability of plastic creation, pollution and strategies to reduce plastic pollution.
Processes	• Be able to identify, describe and explain how an OS map shows the formation of physical and human spaces across the world. • Be able to describe and explain how human activity alters physical landforms and features. • Be able to describe and explain the processes that lead to the formation of different hazards. • Be able to describe and explain how different processes can be used to increase resource supplies.
Geographical Skills	• Be able to use a world map, atlas and OS map to identify features and locations. • Be able to use some cartographical skills, map skills and mathematical skills to interpret information. • Be able to understand how to apply skills, knowledge and understanding to a particular issue in secondary resources to come to an informed decision.

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