

Knowledge organiser year 9



Curriculum

- Autumn 1-Interconnectedness
- Autumn 2-Greatest Threats Our Planet is Facing
- Spring 1-Biomes
- Spring 2-Biomes
- Summer 1-The Challenge of Natural Hazard
- Summer 2-The Challenge of Natural Hazards

Lesson 1: What is Interconnectedness

Interconnectedness	Interconnectedness means places and the people and organisations are interconnected with other places in a variety of ways.
Example of my interconnectedness	<ul style="list-style-type: none"> The foods I eat are from different countries around the world. For example, rice is a staple of most peoples diet in the UK, yet it is not grown in the UK. The music we listen to is influenced from different countries and people, listening to this means I am interconnected with others The clothing that I wear is made in countries outside of the UK, for example in Asian countries such as Pakistan.
Example of interconnectedness that I have studied	<ul style="list-style-type: none"> (Y7) Natural hazards – when the 2010 Haiti earthquake happened, they received aid and assistance from countries across the globe such as the USA and the UK. (Y8) Climate Change – the impacts of climate change affect not just the countries that produce the most greenhouse gas emissions but many other countries around the world. The actions of one country can impact another showing how interconnected they are.

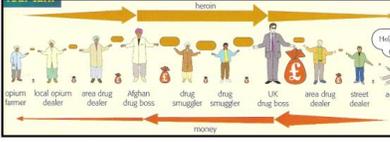
Lesson 2 : Afghanistan Introduction

Afghanistan key facts	<ul style="list-style-type: none"> Afghanistan is located in Southern Asia. It is a landlocked country, surrounded by 6 other countries. Its capital city is Kabul, which is located in the east central part of the country It has a population of 38 million people, and the more densely populated areas are in the east of the country Afghanistan has a mountainous landscape with some flatter land in the north and south west Whist it does have regional variations: Afghanistan's climate sees hot summers and extremely cold winters which are typical in a semiarid climate 	 
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Why is Afghanistan under-developed?

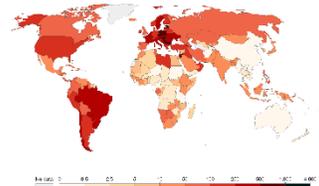
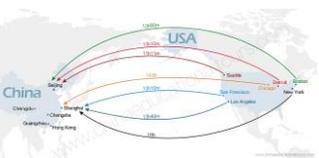
Afghanistan's Development	Development Indicator	Afghanistan	<p>There are a number of factors that have contributed to Afghanistan's poor level of development.</p> <ol style="list-style-type: none"> Afghanistan is a landlocked country which means it does not have a coastline which makes it harder to trade with other countries and make more money. The land in Afghanistan is very mountainous and therefore hard to develop on. It has poor infrastructure such as roads, railways etc. It also has poor irrigation infrastructure. Afghanistan has also had a long history of conflict which had a huge impact on development.. More specifically, conflicts are costly, so there is less money going towards making improvements in healthcare and education. Conflict has impacted on trade between Afghanistan and its neighbouring countries and has also left Afghanistan to be seen as a country that is not stable, there are less opportunities for foreign investment, therefore less job opportunities and income. Finally, Afghanistan is prone to a number of natural disasters such as earthquakes, floods, droughts, landslides. Money goes towards responding to these instead of developing different aspects of the country.
	GDP per capita	\$2,065	
	Life expectancy	53.25 (52M / 55F)	
	Infant mortality	106.75 deaths	
	Literacy Rate	43%	
	HDI	0.511 Rank: 169	

Lesson 3: Afghanistan Opium Poppy Flow

Opium Poppy	<ul style="list-style-type: none"> An opium poppy is a flowering plant where the sap is used to make heroin. Heroin is a drug that devastates many people. Around 80-90% of the world's heroin comes from Afghanistan. Many Afghan farmers have very few options to earn a living so grow opium poppies approx. 3 million farmers There is little to no irrigation infrastructure so it is very difficult to grow anything. There is a very limited amount of factories in the country as a result there are less well paying jobs The climatic conditions mean they can often face drought and but the opium poppy flower can withstand these conditions.
Poppy Flow to the UK	  <ul style="list-style-type: none"> Due to globalisation trade across the world has increased and become easier. Even the trading of goods such as drugs. Europe is an important market for Afghanistan's opium poppy production and especially countries such as the UK, France and Germany. Look at the countries in red on the map opposite. But to get there it must travel through many other countries first. The 'Balkan route' is the route that is predominantly taken for the trading of heroin. Firstly heroin is trafficked through Iran, then it is trafficked through Turkey. Once it is here it is trafficked through the remainder of Europe. There are many people involved in the drug trade along this route. This includes farmers, dealers, smugglers, and addicts, all interconnected to each other as a result of Afghanistan.

Lesson 4 and 5: Iceland Introduction and Impacts

Iceland key facts	<ul style="list-style-type: none"> Iceland is located in the North Atlantic Ocean, between Europe and North America, specifically Northern Europe. Capital city = Reykjavik, located in southwestern Iceland. Iceland is the 2nd largest island in Europe. The terrain in Iceland is mainly plateau but has some mountain peaks. Population = 350,000 people Located on a constructive plate boundary. North American plate and the Eurasian plate are moving away from each other on the Mid-Atlantic Ridge = new land is created Eyjafjallajökull is a volcano located in the south of the island – Eyja (island) Fjalla (mountain) Jokull (glacier) 															
Eyjafjallajökull Eruption 2010	<ul style="list-style-type: none"> On the 14th of April 2010, an eruption occurred 250m below a glacier (ice sheet) This melted the ice on top of the volcano causing a glacial flood (a Jökulhlaup) Ash was ejected high into the atmosphere (ash plume) , almost 10km high The volcano continued to erupt and spew ash into the atmosphere. 	<table border="1"> <thead> <tr> <th>Local Impacts</th> <th>Global Impacts</th> </tr> </thead> <tbody> <tr> <td>1. The local population of 800 people were evacuated due to the threats of the ash</td> <td>1. European air space was closed = air space was at a standstill costing billions of Euro's</td> </tr> <tr> <td>2. Agricultural land was damaged due to falling ash</td> <td>2. Sporting events = cancelled or postponed e.g. 2010 Japanese motorcycle grand prix.</td> </tr> <tr> <td>3. Local flooding due to the glacier melting.</td> <td>3. Many Farmers in Kenya were affected as flowers and vegetables were left to rot losing up to \$1.3m per day.</td> </tr> <tr> <td>4. Fish exports from Iceland were disrupted - a major local industry.</td> <td>4. Barack Obama and other world leaders could not get to Poland to a state funeral</td> </tr> <tr> <td></td> <td>5. The prime Minister of Norway had to run Norway from NYC as he could not return.</td> </tr> <tr> <td></td> <td>6. More media attention for Iceland = mor tourists</td> </tr> </tbody> </table>	Local Impacts	Global Impacts	1. The local population of 800 people were evacuated due to the threats of the ash	1. European air space was closed = air space was at a standstill costing billions of Euro's	2. Agricultural land was damaged due to falling ash	2. Sporting events = cancelled or postponed e.g. 2010 Japanese motorcycle grand prix.	3. Local flooding due to the glacier melting.	3. Many Farmers in Kenya were affected as flowers and vegetables were left to rot losing up to \$1.3m per day.	4. Fish exports from Iceland were disrupted - a major local industry.	4. Barack Obama and other world leaders could not get to Poland to a state funeral		5. The prime Minister of Norway had to run Norway from NYC as he could not return.		6. More media attention for Iceland = mor tourists
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Lesson 6: International Migration		Lesson 8 & 9: Covid-19 Spread and Impacts	
Migration Key Terms	<ul style="list-style-type: none"> Migration – movement of people Migrant – someone who moves Internal (domestic) migration – within a country International migration – between countries Emigrant – someone moving out of an area Immigrant – someone moving into an area Voluntary migrants choose to move, eg. to start a new career Forced migrants (refugees) have no choice, move due to war or natural disasters, eg. Syrian war refugees. <p>The largest migrant population live in the United States (>40 million).</p> <ul style="list-style-type: none"> The main international migration routes: South America → Mexico → USA West Africa → Spain → France → UK East Africa → Italy → UK Middle East → Europe The largest migrant proportion of the total population: in UEA, Saudi Arabia and Australia. 	<p>Push factors - reasons that people want to leave a place eg. <i>political fears, lack of jobs, natural disasters, wars, shortage of food.</i></p> <p>Pull factors - reasons that attract people to a new place, eg. <i>job opportunities, education opportunities, better housing, medical care, family links.</i></p> <p>All push and pull factors can be categorised into: social, economic, environmental and political.</p> <p>Barriers or obstacles to migration:</p> <ul style="list-style-type: none"> - physical distance and cost of journey - physical barriers (oceans, mountain ranges) - political obstacles (international borders, immigration restriction) - cultural barriers (different language and way of life). 	<p>Types of employment: The four different job sectors:</p> <ul style="list-style-type: none"> Primary – People work with raw materials, for example, fishing, mining, farming Secondary – Manufacturing, turning raw materials into something else (factories) Tertiary – Providing service and skills – for example, teachers, construction, lawyers Quaternary – Jobs in research and development, for example, pharmaceuticals and IT 
	Examples of past migration to the UK	<ul style="list-style-type: none"> 1800's - Irish people fleeing from famine and poverty and Jews escaping persecution 1930's – Jews fleeing from Nazi's 1948 – Caribbean immigrants 1950-1970's – Indians, Pakistanis and Bangladeshis were looking for work 1972 – African-Asians were removed from Uganda by the government 2004 – Many migrant from the EU came to live and work in the UK 2016 – Since 'Brexit' there are fewer EU citizens travelling to the UK 	<p>Impacts of Covid-19</p> <ol style="list-style-type: none"> Pick for Britain (UK government campaign) to encourage people (70,000 workers) to apply to help out in the farming business. Many foreign seasonal workers were unable to travel to the UK during COVID-19 (travel regulations). Globally, maize prices raised by 80% and wheat prices 28% higher in 2021 since January 2020. Shops were closed globally (UK lockdown) and shoppers were encouraged to only leave the house for essential reasons. Lots of unemployment of tertiary workers (hospitality & retail). Amazon gained global record profits in July 2020 and continues to do so through 2021. Amazon's total sales surged 26% to £13.73billion. They also increased the workforce by 34% during 2020/21, which created many economic opportunities in the manufacturing sectors. Governments around the world have pledged billions of dollars for a Covid-19 vaccine and treatment options. By May 2021, the UK had already spent £12 billion on COVID-19 vaccinations. In the UK, car annual sales have slumped by 29% to less than two million, the biggest year-on-year fall since the Second World War. During the first full month of lockdown, car sales fell by 97%.
Migrants Impacts on Places		Lesson 10: Interconnectedness and the Future	
<ul style="list-style-type: none"> Diversity in the UK is celebrated with music, food, colourful parades, e.g. annual Notting Hill Carnival in London celebrates Caribbean culture brought to the UK by West Indian immigrants after Second World War. Today it attracts people from all backgrounds who want to join Europe's biggest street party. Migrants may change the places they migrate to. Evidence for this change can be found in our local area. The impacts of migration on our local area may change over time. For example on your high street you may find examples of restaurants from India, China, Turkey or Nigeria, Polish or Romanian delicatessen, Muslim mosques, Hindu temples and Catholic churches. Small businesses are frequently run by immigrants too. 		<p>The future?</p> <ul style="list-style-type: none"> Throughout this unit we have looked at many examples of how we are interconnected with countries and places around the world. But will that change in the future? There are different things that are happening around the world that mean we are more connected with some places and less connected with others. 	
Lesson 8: Covid Spread		<p>THE UK NO LONGER PART OF THE EU:</p> <ul style="list-style-type: none"> The UK has left the EU (Brexit) As part of the EU a group of 27 = freedom to live and work in EU countries Free trade with other EU countries Brexit = no longer able freely able to do these. Links within EU may be harder to maintain. <p>THE RISE OF TECHNOLOGY AND SOCIAL MEDIA:</p> <ul style="list-style-type: none"> Technology has increased our ability to communicate with other countries and places. Covid-19 pandemic saw an increase in how we use technology and extended links. Social media (Instagram, twitter, tiktok) = played a role in making us more interconnected. with people all over the world that otherwise we would not be able to do. 	
Afghanistan key facts	<ul style="list-style-type: none"> Coronavirus disease is an infectious disease caused by a newly discovered coronavirus. COVID-19 = Coronavirus 2019. Globalisation is the interaction and integration among people, companies & governments worldwide. For example, steam ships used to be 36mph and now planes are 500-700mph. COVID-19 has travelled worldwide due to contaminated people using transport. COVID-19 can also travel easily when a country is densely populated. This means that there are more people in an area for the virus to be passed through the air. The percentage of a country isn't always an accurate indication of the severity of COVID-19. This is because some countries are more populated than others. For example, in May 2019 22 million people in India had tested for positive for COVID-19, however this was only 1.59% of the population, whereas the UK had 6.6% positive with only 4 million cases.  	<p>UK FOOD IMPORTS:</p> <ul style="list-style-type: none"> The UK imports over 40% of its food = EU, Africa, North America. (fruit, vegetables, meat) UK relies on many other countries to ensure that we can feed our population. The ONS (office for national statistics) estimated = additional 7.5 million people in the UK by 2050 = a larger demand on food. <p>FIGHT AGAINST CLIMATE CHANGE:</p> <ul style="list-style-type: none"> Climate change is a global problem = most of the countries around the world are contributing to. impacts will not be distributed fairly. The lowest contributors to CC (LICs) will feel the largest impacts. Climate change needs countries of the world to work together with the aim of reducing the GHG emissions International agreements E.G. Kyoto Protocol in 1997 and 2015 Paris Agreement. 	

Lesson 1 Over population:
<ul style="list-style-type: none"> The world's population is estimated at 7.9 billion people. The world's population is rising rapidly. Currently 55% of people live in towns and cities. It is estimated by 2050, it will increase to 68%. Tokyo is the largest mega city in the world with a population of 38 million people.

Lesson 2 water insecurity:
<ul style="list-style-type: none"> 97% of the world's water is found in seas and oceans. <1% of water is available to us to drink. Water is distributed unevenly across the world. <i>Water insecurity is the lack of adequate and safe water for a healthy life.</i>



Lesson 1 Impacts of over population:
<ul style="list-style-type: none"> Pressures on food, water, energy and land. Overcrowding in towns and cities Housing shortages Increased air pollution Increased waste Loss of green spaces Loss of biodiversity



Lesson 2: Las Vegas case study:
<ul style="list-style-type: none"> Las Vegas is located in the south west of the USA. It's climate can be described as arid. Lake Mead provides 90% of Las Vegas' water. But is currently at an all time low of 36% capacity. There 642,000 people living in the city of Las Vegas and in total 2.2 million people in the Metro area. There population is continuing to rise. The water in Las Vegas is currently being used at a deficit. Large population + low water supply + little rainfall = a quicker rate of use than replenishment. Increasing temperatures from climate change are making this problem more severe. Snow melt that would usually supply Lake Mead has reduced or become earlier in the year, leading to a shortage in the later months.

Lesson 3 energy security:

<ul style="list-style-type: none"> Energy security is defined as the 'provision of reasonably priced, reliable and environmentally friendly energy.' Access to energy and renewables is uneven across the world. If people do not have energy they cannot, heat, light their homes, cook and refrigerate food/medicines. Fossil fuels are non renewable and harmful to the environment. Renewables produce clean energy, using natural sources. Such as, wind, water and solar energy. Oil production will eventually hit its peak, due to the time it takes to form and the rate that we are using it. This will lead to lack of energy supply, reduction in industry, unemployment and possible conflict.
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Lesson 4 Waste:

<ul style="list-style-type: none"> The average household produces 1 tonne of waste a year. In 2007 the UK produced 27 tonnes of household waste. Household waste is increasing dramatically over time. Our waste is mainly, either recycled or put into landfill. Landfills are harmful to the environment. They produce methane (GHG) and poisonous leachate. Leachate contaminates the ground water and soil. Methane contributes to the Greenhouse effect. Increasing global warming. When we can not manage our waste we send it to other countries, for example China. China has now restricted our sending of waste to them. We now have to manage it ourselves or send it somewhere else. But how do we know it is being dealt with properly?!



Lesson 5 overfishing, importance of the ocean:

- Helps keep the planet warm
- Responsible for large amounts of precipitation
- It's a carbon sink
- Source of food
- A huge range of species live in the oceans
- Provides tourism and leisure activities
- Employment and income
- Medicine
- Transportation



Lesson 5 Solutions to overfishing:

- Create marine protected areas
- Reduce subsidies
- Buy sustainably caught fish – logos
- Better governance and control of illegal fishing
- Reduce bycatch – engineering of equipment and nets is one solution

Lesson 5 overfishing:

Overfishing is to excessively fish an body of water, reducing fish stocks below a sustainable level. Fish is caught at a faster rate than it can be replenished.

Causes of over fishing

- Illegal fishing
- Profit driven – economic gain
- Subsidy – the offer to reduce costs/cover the costs of ships, tariffs and equipment.
- Improvement in technology and equipment
- Unsustainable practices – overfishing and bycatch (the accidental catching of other species of fish)
- Increase in demand
- Poor governance

Lesson 5 impacts of overfishing:

- **Bycatch** – the catching of non targeted species in the catch.
- **Depletion of fish stocks** – risk for the future
- Impact on the food web with in the ocean and **damage to the ecosystem**
- **Jobs are at risk** if fish stocks get too small
- **Fish prices increase** and pressure on other protein sources will increase (plant based – agricultural effects)
- **Growth of Aquaculture** – farmed fish

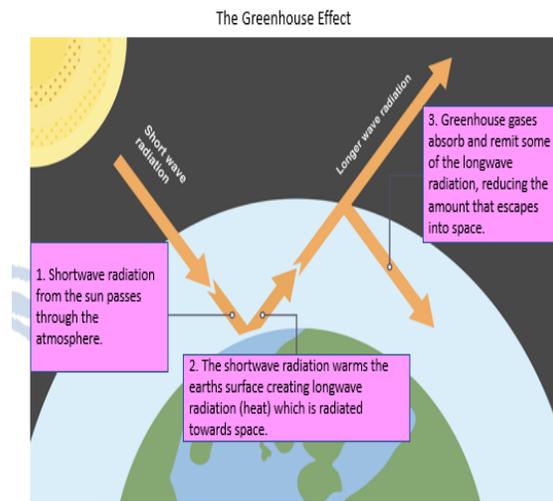
Lesson 6 Wilderness:

- Wilderness = natural environment mostly undisturbed by humans
- Africa is made up of different biomes. There is a large Savannah are in Tanzania, known as the Selous Game reserve. This is a conservation area.
- The Selous Game reserve is under threat from:
 - Poaching
 - Energy production (Hydro electric)
 - Mining and extraction of resources
 - Infrastructure development



Lesson 7 Frozen planet:

- Global temperatures have increased by 0.8°C since 1900.
- Permafrost= Permanently frozen soil often found in wilderness areas called tundra.
- Permafrost is located mainly north of North America and Europe.
- Global warming is leading to the melting of permafrost.
- Dead matter holds methane in the ice and as it thaws it releases the GHG into the atmosphere accelerating the greenhouse effect = more melting of permafrost.



Lesson 8 Rising sea levels :

- Rising temperature =melting ice sheets and glaciers = sea level rise = loss of low lying land
- Examples of low lying countries impacted by sea level rise are Bangladesh, Tuvalu and Kiribati.
- Sea level rise will have social, economic and environmental impacts.
- Loss of homes and increase migration. Loss of tourism and ecosystems, such as coral reefs.

Lesson 10 National parks :

- National parks are areas of countryside, or occasional sea or fresh water, protected by the state for the enjoyment of the general public.
- The USA has many national parks, one of the most famous is the Yellowstone National Park.

Lesson 10 Yellowstone:

- Geothermal activity – scientific research- geysers, volcano, hot springs and fumaroles.
- 11,000 years of settlement history – tribes still live in the Yellowstone area today.
- Water – snowmelt provides water for the rivers that run through Yellowstone – Americans use this water for drinking water
- Biodiversity – animals and plant life – protection of species – maintenance of ecosystems (grizzly bears)
- It's range of landscapes – rivers, valleys, lakes, mountains, grasslands, woodlands, geothermal features and waterfalls.
- Tourism-- \$647.1 million in economic benefits



Lesson 9 Coral reefs :

- Coral is a type of animal. They are related to jellyfish and sea anemones.
- Coral reef = Underwater ecosystem made up of coral (very small animals) which feed on algae (tiny plant like organisms). Coral reefs have a huge biodiversity (range of species).
- They survive in salty water of 18-25°C.
- They are mainly located between the tropic lines. 0 and 30° North and South of the equator
- Bleaching is one of their biggest threats!

Lesson 9 The importance of coral reefs :

- 1 billion people rely on food from the coral reefs. – mainly in the poorer countries of the world.
- Commercial fishing takes place there.
- Medicine – chemicals from the reefs are used in finding cures for cancer.
- Coastal protection – they act as natural barriers from storms and Tsunamis.
- Tourism – people like to see the reefs and dive there – earning local communities money in the process.



Lesson 9 coral reefs under threat:

- Climate change
- Sedimentation – surface run off from farms and urban areas lead to sediment covering the coral, limiting the sunlight getting through and reducing their ability to feed, grow and reproduce.
- Agriculture – fertilizers lead to an overload of nutrients which encourages algae to increase, blocking the sunlight for the coral, it also consumes the oxygen the coral needs. The additional nutrients can also lead to bacteria and fungi growing that can be harmful to coral.
- Plastics – catching on the reef and breaking it... animals eat the plastic and disrupt the ecosystem.
- Overfishing – removal of fish can harm the coral as some species keep the coral clean of algae growth.
- Tourism – leads to physical damage whilst visiting the reef but also collection of the coral and selling it as souvenirs
- Sea level rise – sea level rise leads to an increase of sedimentation through coastal erosion and the smothering of coastal coral.