

Y8 Environmental Issue: Essential Knowledge Sheet

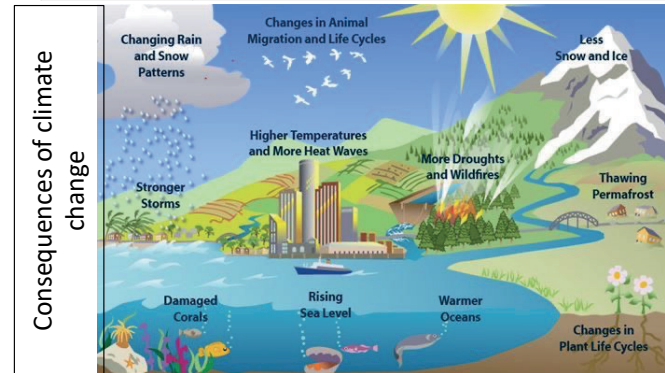
Environmental issues	Environmental issues are harmful effects of human activity on the environmental e.g. air pollution, climate change and oil spills	
Rubbish / waste	Rubbish is what people throw away because they no longer need it or want it. It includes everything from a crisp packet to a broken toy.	
Problems with waste	Stuff that we no longer want ends up buried in landfill	
Energy Type	Advantage	Disadvantage
Coal	Reliable, cheap and plentiful	Produces carbon dioxide, contributes to climate change, non-renewable
Oil	Established fuel source, efficient, non-weather dependent	Can lead to oil spills, produces green house gasses, non-renewable
wind	No carbon dioxide emission, plentiful in the UK, renewable	Requires wind, can be noisy
Nuclear	Very reliable, can produce lots of energy,	Expensive, difficult getting rid of waste
Hydro electric power	Sustainable, can be used night or day, renewable	Requires large dams to be built, expensive
Solar	Cheap, no green house gas emissions, renewable	Not suitable everywhere and at night

Recycling	Recycling is the process of converting waste materials into new materials and objects
Landfill	The disposal of waste material by burying it
Incineration	The destruction of waste material, by burning it.
Sources of plastic pollution	Litter, plastic fibres in clothing, food packaging, household waste.
Solutions to plastic waste	Recycling, plastic bag tax, coffee cup recycling, compostable plastics, avoid single use plastics
Waste management hierarchy	Ranks waste management options according to what is best for the environment. It gives top priority to preventing waste in the first place e.g. reduce then reuse then recycle
Sustainable	Good for local people, long lasting and good for the environment
Global footprint	The quantity of nature it takes to support people or an economy.
Ways of reducing our global footprint	Compost all food waste, solar panels, showers instead of baths, water butts, draft excluders
Food miles	The distance which a food item is transported during the journey from producer to consumer.

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Case study: Food production in Mexico	
Avocado	The tropical evergreen tree that bears the avocado fruit, native to Mexico and grown elsewhere
Advantages of avocado production in Mexico	Disadvantages of avocado production in Mexico
Avocados are called 'green gold' because they earn more profit per acre than any other crop	Illegal avocado plantations often cut down ancient pine forests in the area to make room. This led to soil erosion and many habitats being destroyed.
Approximately 30,000 people are employed in Tancitaro producing avocados.	The boom in avocado prices has meant organised criminals have got involved with illegal avocado production
Avocados are worth around £1.2 billion each year to the Mexican economy.	Large amounts of wood is needed to pack the avocados for transit, this has led to large areas of local pine forest being cut down to provide shipping crates for the avocados.

Climate change	Environmental issues are harmful effects of human activity on the environmental e.g. air pollution, climate change and oil spills
Fossil fuel combustion	The burning of a natural fossil fuel e.g. coal, gas or oil
Greenhouse gasses	Gasses such as carbon dioxide and methane that contribute to climate change
Climate change causes	Fossil fuel combustion, agriculture (farming), pastoral farming (animals e.g. cows), arable farming (crops) e.g. paddy fields melting of permafrost releasing methane,
Solutions to climate change	Move towards electric vehicles, renewable energy e.g. solar, International agreements e.g. The Paris Accord 2015.



Y8 Fragile Environments Essential Knowledge

What is a fragile environment?	A fragile environment is something that is a delicate and precious part of our world. An environment can be built or natural. A built environment is an environment that has been created by humans. Parks, buildings, roads, schools and houses are all a part of built environments.
Antarctica	Is the world's 5 th largest continent, located in the southern hemisphere. It is a cold desert receiving less than 200mm of precipitation per year. It has no permanent residents.
Antarctic Treaty, 1959	Main points of the Treaty include: <ul style="list-style-type: none"> • Freedom of science • No military activity (including nuclear testing) • No fixed population
Stakeholder	A group or individual who has a vested interest in someone or something. Examples include: environmentalists, scientists, tourism companies, mining companies.
Food Chain	Shows how plants and animals gain energy in the wild, starting with a producer and ending with an apex predator. E.g. Phytoplankton → Krill → Fish → Penguin → Leopard seal → Orca whale

Fragile Environments of Africa

	Desert (The Sahel)	Tropical rainforest	The Savanna
	In this climatic zone there is more evaporation than precipitation. Some parts of this area only receive as little as 0.83mm per year! The temperatures can reach up to 58°!	This climate has 180mm of rainfall every month! The temperature remains consistently warm all year round.	This climate zone has monthly mean temperatures of 18° and has a wet season and a dry season. They tend to have grasslands as opposed to jungle.
Endangered species in fragile environments	<u>Reasons for animal endangerment:</u> <ul style="list-style-type: none"> • Poaching • Population growth • Demand for ivory • Poverty • Palm oil • Habitat loss 	Bonobo monkeys can only be found south of the Congo River in the Democratic Republic of Congo (DRC). They are killed due to the destruction of their habitats. They spend more time in trees than any other monkey species and build their nest there.	Elephants are the largest living land mammal in the world. They usually travel in groups. They are poached for their tusks, meat and skin. They live in the savanna region.

The Sahel



Physical / natural features	<p>The region has abundant wildlife including: gazelle, cheetah, African wild dogs, lions & giraffe</p> <p>The climate is typically hot, sunny, dry and somewhat windy all year long. It can reach up to 42°C.</p> <p>The Sahel receives a low and unreliable amount of precipitation annually. The entire Sahel region generally receives between 100 mm and 600 mm of rain yearly. Droughts are frequent.</p>
Human features	Traditionally, most of the people in the Sahel have been semi-nomads, farming and raising livestock in a system of transhumance (moving livestock from one grazing ground to another), which is a very sustainable way of utilizing the Sahel.

Australia's fragile environments



56 species have been introduced to Australia!

Location	Essential Knowledge
The Outback	<p>Climate change and drought are having a significant impact in the region</p> <p>Agriculture is over abstracting water exacerbating the problem</p> <p>Average temperature = 35°C</p> <p>Average PPT= 150mm per year</p> <p>Flora (plants) = Stuart's Desert Pea, Kangaroo Paws</p> <p>Fauna (animals): kangaroo, saltwater crocodile & dingo</p>
The Daintree Tropical Rainforest	<p>Deforestation for farms and private residences are the main threat.</p> <p>Feral animals and invasive species are putting native species at risk.</p> <p>Average temperature = 26°C</p> <p>Average precipitation = 2,000mm</p> <p>Flora (plants): Many of the plants are poisonous like the idiot fruit</p> <p>Fauna (animals): estuarine Crocodile and musk rat</p>
Uluru	<p>Tourism on a large scale, climbing the rock, polluting the local water supplies and erosion are the main environmental problems.</p> <p>Average temperature = 35°C</p> <p>Average precipitation = 308mm annually</p> <p>Flora (plants): there are over 416 species of native plants in Uluru-Kata Tjuta National Park alone.</p> <p>Fauna (animals): spinifex hopping mouse, wallaby, red kangaroo.</p>
The Great Barrier Reef	<p>Climate change causing the bleaching of coral, water pollution runoff and over fishing are the main threats here.</p> <ul style="list-style-type: none"> • Average temperature = 24-33° in summer and 14-26° in the winter • Average precipitation = 2010 mm • Flora (plants): seaweeds and grasses • Fauna (animals): dolphins, sharks, including 1400 coral reef species

Invasive	Feral	Pests
Species has a tendency to spread their range into new areas or plague their range.	Defined as animals for domestic purposes (i.e. pets, recreational use – such as hunting – or beasts of burden) which have gone wild.	Animals which have a direct effect on human standard of living or the environment/ecosystems in areas where they are present, have a high rate of reproduction and are difficult to control.
Cane toad – over 200 million in Northern Queensland alone. Kill native species with their bufotoxin.	Camels – introduced to help farm in the Outback and some escaped.	Rabbits – estimated 200 million living in Australia!

Climate	The long term weather conditions over a period of time. Temperatures and precipitation levels are a large part of this.
Flora –	vegetation
Fauna –	wildlife
Adaptation –	how animals are modified/enhanced to ensure the survival of their species.

