

Curriculum Intent:

To equip children with knowledge about places, people, resources and both natural and human environments, together with a deep understanding of



Subject	Term	Unit	Year
Geography	Autumn 2	Types of Pollution and being a good global citizen.	Year 5
Prior knowledge Building on knowledge and skills		National Curriculum Focus	
KS1 units Great Britain countries and oceans. The continents and seas of the world. The physical and human geography of Kenya , Continents and the Arctic and Antarctic regions.. Year 3 Marvellous Mountains and a Local study observing how an area has changed geographically over time . Year 4 Volcanoes and Earth quakes		<u>Aims</u> Understand the processes that give rise to key physical and human geographical features of the world, how these are interdependent and how they bring about spatial variation and change over time	

What?	An research into the 5 types of pollution, land, air, water, light and noise and what climate change means.
Why?	To look at the links between human pollution of the planet and its affect on wild life and climate .
How?	To explore ways how they, school, their families and governments of the world can reduce pollution and the effects on the planet .

Key vocabulary

pollution	Contamination due to waste, chemicals or harmful substances. The main forms of pollution are air, water and land.	ecosystem	A community of interacting organisms and their environment.
sustainability	The idea that humans can interact with the environment in a way that ensures there are enough resources left for future generations.	global warming	The increase in overall temperature of the planet.
recycle	Reusing materials instead of them being wasted and thrown away.	nature conservation	Protecting our environment and the wildlife that live on it. This includes looking after biodiversity and the health of the planet.
extinction	The dying out or disappearing of a species from earth.	waste	Unwanted or unusable materials or objects that are thrown away.
biodiversity	All the plants and animals in the world or in a particular habitat.	biodegradable	An object that is biodegradable can be broken down by bacteria or other living organisms.
landfill	The disposal of waste by burying it.	reduce	Trying to cut down on the amount of waste produced, e.g. by only buying what is needed and reusing items.

reuse	Using waste items again (sometimes for a different purpose) or buying items that can be specifically used repeatedly, e.g. refillable water bottles and wax wraps.	decompose	Rot, decay and break down into smaller parts.
greenhouse gas	Gases in Earth's atmosphere that contribute to the greenhouse effect by preventing the Sun's heat from escaping back into space, e.g. carbon dioxide	greenhouse effect	An effect whereby the Sun's heat is trapped within Earth's atmosphere by the layer of greenhouse gases, which surround Earth. This leads to a continuous rise in temperature, causing changing ecosystems and more extreme weather events.
climate change	A long-term change in the Earth's climate that affects average temperatures and weather patterns.	carbon footprint	A measure of the amount of carbon dioxide that is released into Earth's atmosphere as a direct result from the activities of a person, company or organisation.
renewable	A resource that is replaced naturally and so can be used repeatedly, e.g. oxygen, water, wood.	non-renewable	A resource that is used faster than it can be naturally replaced. These resources will one day run out, e.g. coal, oil

Key Questions

1. What is pollution and what are the 5 main types?
2. What is climate change and what is being affected by it?
3. What are the consequences of climate change?
4. Why is plastic pollution such a problem? Why is it harmful to the environment?
5..What is recycling and in particular how is plastic recycled? Can I identify what can and cannot be recycled?
6. Why is litter dangerous to animals?
7. What types of litter can we see in on our school site and what ways can this be addressed? Field work
8. What types of litter can we see in our local area? Field work
9. How can we make a difference to our environment and community?

Key learning: (Specific link to the NC here)

Objective	Learning
Can I explain what pollution is and the 5 main types?	<p>Give a pollution definition: Pollution happens when harmful materials are introduced into the environment. These harmful materials can include chemicals, gases and waste. There are five main types of pollution.</p> <p>Water: Water pollution happens when harmful chemicals and materials enter water sources. This can include rubbish thrown into rivers and oceans and also chemical waste from factories. Some chemicals, like pesticides, used by farmers can soak into the ground and pollute the surface water. This can then drain into rivers and lakes. Waste plastic often makes its way into water and causes many problems for wildlife. Water pollution puts aquatic species and their habitats in danger.</p> <p>Air : Most air pollution is caused by burning fossil fuels such as coal, gas and oil.. Some factories, power plants, cars and aeroplanes all use fossil fuels. When these materials are burnt, they release harmful gases into the air which are thought to cause global warming.</p>

Fossil fuels are burnt in the production of plastic. Over 300 million tonnes of plastic are produced each year. This has a negative impact on air quality.

Land :
 Land pollution is caused when the land is contaminated by waste or chemicals. This can happen when litter is discarded.
 Landfill sites are areas of land where rubbish is dumped. These are large holes in the ground with the specific purpose of containing household waste. Waste is compacted, processed and buried in the landfill sites.
 Some of this breaks down but some materials do not decompose. Plastic will remain in the ground for many decades.
 Land pollution can also occur when chemicals from factories or pesticides from farms contaminate the soil.
 Some types of mining cause land pollution. Land pollution can affect wildlife by damaging or destroying habitats.
 When chemicals enter the soil used to grow crops, it can cause health problems for humans.

Light:
 Light pollution is when too much artificial light is produced, especially at night. Humans and animals need darkness to sleep properly. Too much light can disrupt sleep patterns.

Noise
 Noise pollution happens when excessive or unpleasant sounds affect or harms humans, wildlife and environmental quality.

Can I explain what climate change is and why are people worried about it?

Climate change is the name given to changes in weather and temperatures that pose a challenge for us now and in the future.
 These changes are a result of human activity and are not good for the planet.
 Over the past 200 years, industrialisation and a huge increase in the world's population has led to the increase of gases that can lead to rising temperatures around the world. These include: Electricity and heat, **Transportation, manufacturing and production, Agriculture.**
Which Gases Cause Global Warming? Some of the gases that are created through agriculture and manufacturing are particularly harmful to the planet. These are known as greenhouse gases and include: Carbon Dioxide (CO₂)
Fossil fuels like coal and petrol release CO₂ when burned. Nitrous Oxide (N₂O)
Known as laughing gas and used in hospitals, Methane (CH₄)
Digestive gases released by cows, pigs and chickens.
How Do Greenhouse Gases Change the Climate? Just like a greenhouse, the Sun's rays can enter the Earth's atmosphere, but then become trapped inside by greenhouse gases. This means that temperatures are slowly increasing all over the planet. This is known as global warming. These small changes can have a dramatic impact on different places.

Building wind farms, solar farms and other

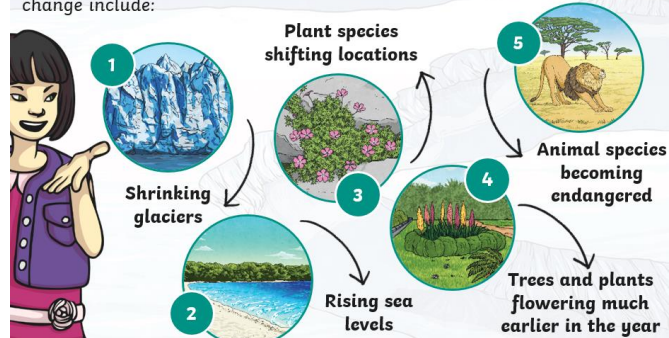
Stopping the manufacture of petrol

Introducing electric vehicles.

Many people think that this is not happening quickly enough to make a difference and more action is needed

What Is Being Affected By Climate Change?

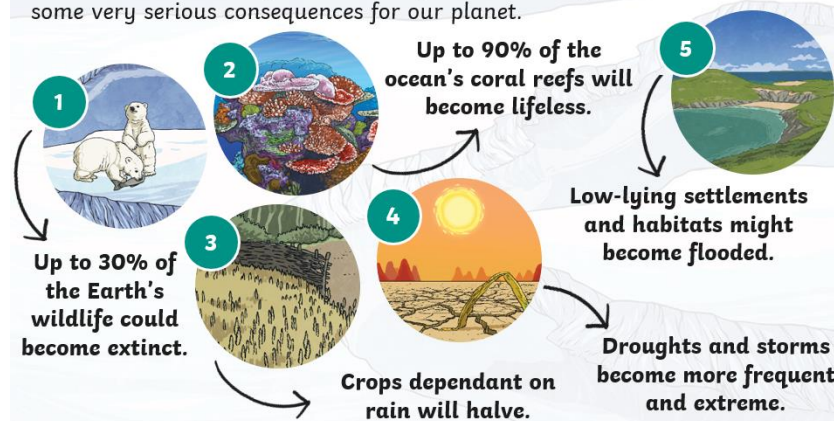
Global warming is the main cause of climate change. The effects of climate change include:



What Is Being Done To Combat Climate Change? Some important changes have already been taking place around the world. These include:

What Are the Consequences of Not Doing Enough?

Unless we slow down global warming, experts have predicted there are some very serious consequences for our planet.



Can I identify why plastic pollution is such a problem?

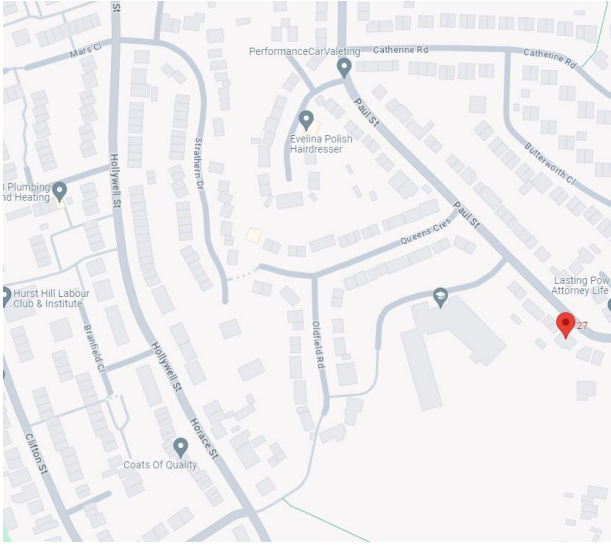
Explain what plastic is and how why it is it is used. Discuss the problem with plastic in the environment and the problems it causes. Discuss how we can help.

Can I explore recycling and in particular how is plastic recycled?

Recycling is when rubbish is turned into something new. Discuss what materials can and can't be recycled. Find out how these materials are recycled. Explore how Dudley authority recycles .

4. Can I identify types of litter in on our school and discuss way this can be addressed?

Field work. : Make a map of the school grounds and do a litter walk noting on a map what types of litter they can find. Discuss why litter can be dangerous to the creatures which live on and around our grounds and humans. Find out what ways we recycle at school and suggest ways how this can be improved.

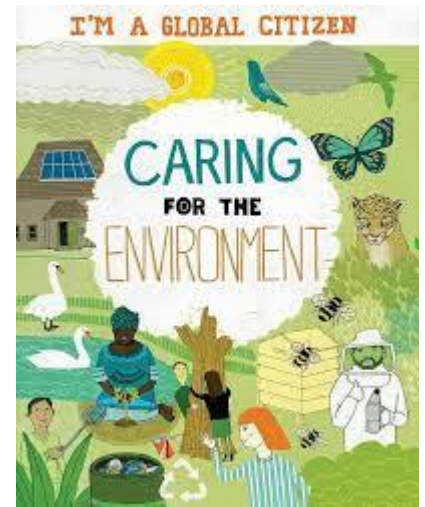
	Design a questionnaire for each class to take about litter at school and quantify the results.- graphs .
5. Can i investigate the types of litter we can see in our local area? Field work	<p>Go on a litter walk finding what litter is found locally around the local area to our school. Have a map and write on where the litter is found. Including the litter bins supplied for public to dispose of the litter.</p> <p>Discuss the impact on wild life and humans the litter has.</p> 
6. Can I discuss ways we can make a difference to land pollution within our families, school and local community?	<p>Discuss the impact on wild life and humans the litter has.</p> <p>How could the litter problem be solved?</p> <p>Make graph's of data found.</p> <p>Write to local council /MP with their ideas to help the litter problem.</p>

Websites

Plastics research

1. <https://ypte.org.uk/factsheets/recycling/the-problem-with-plastic#section>
2. https://www.recyclenow.com/how-to-recycle/recycling-symbols?gclid=CjwKCAiA_OetBhAtEiwAPTeQZ1f-JH1OXkthbupbT0CIDKEVnDvnsTINYsCSS33_7KftUSLSSp1niRoCPy0QAvD_BwE&gad_source=1

Recommended Reads



Golden Thread

Global Awareness : Save our seas, save our trees and save our planet...

Experience Day (Trip / visitor)

Field trip work