

Learning Organiser: Why does Sylvia have the largest collection of bath ducks?

Key objective

Understand the importance of ocean gyres, the impact of microplastics in seas and on beaches and what action can be taken to reduce plastic pollution

Important things I will know, understand and be able to do

The names and location of the world's largest seas

What an oceanographer studies

What happened to a container carrying plastic bath toys in the middle of the Pacific Ocean in 1992

Where these plastic bath toys have been washing up around the world since then

What an ocean current called a gyre is

Why ocean gyres are so important

Why huge quantities of plastic waste accumulates at the centre of ocean gyres

What an ocean garbage patch is and what they contain

What microplastic is, how it forms and why it has such a serious environmental impact in seas and oceans

The many benefits and advantages of using plastic in everyday life

The main uses of single-use plastic and some alternatives

How to carry out a survey of a beach strandline to estimate the number of microplastics present

How to record and present their observations graphically

How to critique their findings and understand the difference between validity and trustworthiness

Important geographical techniques I will use

Fieldwork	Random sampling using a metre quadrat, recording results in tabular form and extrapolating data
Statistical representation	Drawing and interpreting: bar graphs, line graphs and proportional bars
Mapwork	World maps of oceans, seas, gyres and ocean garbage patches
Imagery	Terrestrial, aerial and satellite photographs (orientating with OS map locations) and GIS Google Earth Pro

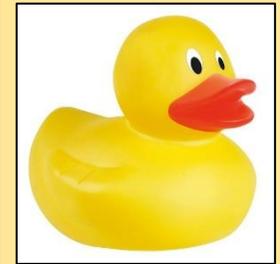
Important vocabulary I will learn

Conservation	the protection of environments to prevent their loss or destruction
Raw material	things found in nature that are used to make products people use
Mitigation	reducing the serious effects of something
Coast	the area where the land meets the sea
Emission	the release of something such as a gas
Gulf	a long narrow passage of sea or ocean water into the surrounding land
Bay	a semi-circular area of sea water found along the coastline
Gyre	a large area of circulating ocean water
Biodegradable	something that can be broken down naturally by bacteria and microbes
Pollution	something added to the environment that is harmful to living things
Strandline	a line of seaweed and other material left on a beach at high tide
Validity	something that is real and factually correct Trustworthy: something reliable and dependable
Trustworthy	something reliable and dependable

Important people I will meet



Sylvia Earle



Moby Duck

Important sources of pollution I will study

Microplastic



Important places I will visit



Beach strandlines

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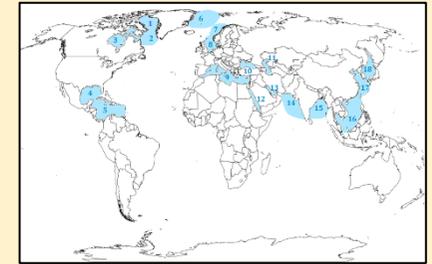
Important geographical concepts I will understand

Environment	the particular physical and human features of places around the world
Processes	the natural events and human actions that bring about change in places
Interdependence	how people and their environments are connected and rely upon each other
Economic activity	manufacturing a good or providing a service that is bought by people
Sustainability	improving the quality of life of people without having a negative impact on the environment
Trade	buying or selling goods and services between people or countries
Distribution	the arrangement or pattern of where physical and human features are located
Transport	move people and goods from one place to another using a vehicle, aircraft or ship
Ecosystem	the community of living things to be found in a particular area which depend upon each other
Location	the position of something on Earth

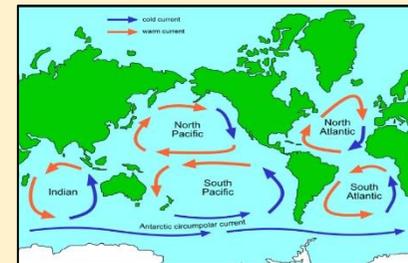
Important maps I will refer to



The World's Oceans



The World's largest seas



Ocean gyres



Ocean garbage patches

Disciplinary thinking skills I will use to understand what I learn

Synthesise	Bring together a range of ideas and facts from different sources to develop an argument or explanation for something.
Explain	Demonstrate understanding and comprehension of how or why something is the way it is as a result of synthesising information.
Empathise	The capacity to place oneself impartially in another's position to better understand their motives and actions (even if they are not shared values)
Informed conclusion	A knowledgeable summing up of the main points or issues about something
Reasoned judgement	A personal view or opinion about something supported by factual evidence
Justify	Give reasons to show or prove what you feel to be right or reasonable
Apply	The transfer of knowledge and/or skills learned in one context to help make sense of a different situation
Evaluate	Weigh up and judge the relative importance of something in relation to counter ideas and arguments
Critique	Review and examine something critically particularly to gain an awareness of its limitations and reliability as evidence
Hypothesise	Come up with an idea, question or theory that can be investigated to see whether it has any validity or truth

Important fieldwork techniques I will use



Quadrat sampling

Important ways of transporting cargo I will understand



Container ships