

## Kemnal Keys: Geography — What are we doing to our oceans?

What you should know	What you should be able to do
An ocean is a very large body of water that is located in between continents There are 5 oceans on Earth: Pacific, Atlantic, Indian, Arctic, and Southern The saltiness of the oceans and seas mainly comes from rocks eroded on land and openings in the sea floor Ocean currents move vast volumes of water around the planet every day Ocean currents, both at the surface and at depth, are driven by wind When wind blows across the surface of the water, it causes friction, causing the water to move Other factors impacting ocean currents are water density and the Earth's rotation Denser, or heavier water is cooler than less dense, warmer water and the denser water sinks to the bottom of the ocean Because the Earth rotates on its axis, circulating air is deflected toward the right in the Northern Hemisphere and toward the left in the Southern Hemisphere. This deflection is called the Coriolis effect. The moving air blows across the surface of the water, causing friction and the water to move Ocean currents are also affected by difference in the position of land masses (continents) by deflecting the water away from its original path An ocean gyre is formed when the wind and land create a large	
circular motion of ocean currents  The Great Pacific Garbage Patch (GPGP) is a mass of plastic debris that has been washed into the Pacific Ocean. It is not one mass, but a bit like 'vegetable soup' with both large and small pieces of plastic floating on or just below the surface. Because of the constant movement of the ocean gyres the size and shape of the GPGP fluctuates (changes)  80% of the GPGP comes from land, mostly bottles and bags	Describe the location of the Great Pacific Garbage Patch Explain how plastic enters the ocean Plot and track plastic in the ocean
Plastic is made from petrochemicals which come from the refinement of oil, a fossil fuel. A plastic bag can take 10-20 years to degrade and even then, it only breaks down into nano plastics that can be consumed by fish and other sea creatures  Many countries have now banned single-use plastic bags in a bid to reduce the amount of plastic in our oceans	Describe how plastic is made Explain why plastic bags are now banned in many countries
A circular economy shows how we can limit waste through recycling and reusing Many countries export, or send abroad their waste, making it someone else's problem. The importing country is paid for dealing with the waste The 6R's show ways to deal with waste: Redesign, Refuse, Reduce, Repair, Reuse, Recycle Sustainability is using resources now without damaging them for future generations	Describe the difference between recycling and reusing Explain why some countries export waste and some countries import waste  Define each of the 6R's
Fieldwork can be carried out on a school site  The geographical fieldwork enquiry cycle shows the stages of geographical enquiry: Introduction and planning, methods and data collection, data presentation, data analysis, conclusions, evaluations Introduction and planning – sets the scene of the enquiry including what, when, where and who  Methods and data collection – what information is to be collected and how it will be collected  Data presentation – graphs, images, notes, photos  Data analysis – working out what the data shows  Conclusions – summing up the enquiry  Evaluation – what went well and even better if	Carry out a geographical enquiry into plastic on our school site using the geographical fieldwork enquiry cycle



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Explain how ocean currents are formed  1b) What is an ocean gyre?	2) Use IDEAL to explain what is happening in the image below
	Identify Describe Explain Apply Link
3) Draw a flow diagram to show how dead sea creatures become plastic	4) Draw an icon (small simple diagram) to help people understand the 6R's
5) Explain why some countries pay for their waste to be dealt by other countries.	6) Describe the things we could do at school to reduce the amount of waste we produce