

Plastic pollution in the oceans

Lesson Plan Lesson2: Impacts of plastic pollution and possible solutions

Learning outcomes	<p>Students:</p> <ul style="list-style-type: none"> • identify how plastic pollution introduces a range of hazards into marine environments for birds, mammals, fish and other organisms • examine and evaluate the likely effectiveness of the actions of a range of players at different scales that attempt to directly attack the problem or to raise awareness of plastic's effects. • learn about a new approach to waste management that can help reduce levels of non-recycled plastic waste
<p>NB Guidance notes for each section of the lesson can be found in the fact sheet & teachers notes</p>	
Starter	<p><i>What chain of events led to this bird's death?</i></p> <p>The starter suggestion involves taking a look at a striking photograph of a dead sea bird taken on Tern Island (a remote island in the French Frigate Shoals of the North-western Hawaiian islands, far from any major source of pollution). What chain of events led to this bird's death?</p>
Main activity	<p><i>(1) The impact of plastic pollution on marine ecosystems, organisms and food chains</i></p> <p>Plastic pollution brings a range of damaging impacts for marine life. Plastic particles of varying sizes bring a range of harmful impacts to organisms. The chemical breakdown of plastic in warmer waters brings additional problems. In this activity, students explore the range of plastic hazards that can bring harm to marine ecosystems.</p> <p><i>(2) What solutions exist?</i></p> <p>A range of players can all be involved in reducing levels of plastic pollution - although global population growth and rising affluence means that more, rather than less, un-recycled plastic will be entering our oceans in the short-term years ahead. There are many suggested ways of trying to tackle the issue that include:</p> <ul style="list-style-type: none"> • scientific solutions • design solutions • awareness-raising actions <p>Each method has strengths and weaknesses to consider and discuss.</p>
Plenary	<p><i>'Resource, not rubbish'</i></p> <p>One important response to the problem could be recognising that what society currently designates 'rubbish' should actually be re-identified as a 'resource'.</p>
Resources	<p><i>This lesson is fully supported with the following resources:</i></p> <p>(1) Word document: Starter Sea bird mystery</p> <p>(2) 'Plastiki' expedition case study</p> <p>(3) Short lecture by Peter Davis, Director-General of the British Plastics Federation</p> <p>(4) Short lecture by David De Rothschild, Clean up the World Ambassador</p>

	<p>(5) Short lectures by Professor Richard Thompson, University of Plymouth</p> <p>(6) Article for students: "The plastic pollution challenge"</p> <p>(7) Word document for plenary group discussion</p>
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