

Date	Class level Fifth Class and Sixth Class	Subject English
<b>Strand</b> Reading	<b>Strand Unit</b> Receptiveness to language. Competence and confidence in using language. Developing cognitive abilities through language. Emotional and imaginative development through language.	
<b>Title</b> Marine Litter – What is in the News		
<b>Objective(s)</b> The aim of the lesson plan is for the children to explore new interests and perspectives through reading about the effects of marine litter. The students will continue to develop a range of comprehension strategies to deal with narrative, expository and representational reading materials.		
<b>Skills Required</b> Reading; Listening; Understanding; Developing Imagination, Creativity and Confidence in using oral language; Writing; Spelling; Grammar; Drafting; Revising and editing; Attention, Memory, Logic and Reasoning Auditory Processing, Visual Processing and Processing Speed.		
<b>Learning objectives</b>  The child will be enabled:  Read non-fiction text based on the theme of marine litter.  Identify the 5W's and H of the newspaper articles.  Analyse and compare articles from a variety of different publications.  Identify the target audiences of the papers.	<b>Learning activities</b>  <b>Talk and Discussion:</b> Have a number of newspaper articles based a marine theme.  <i>Please note that while a number of articles are attached to this lesson plan, news articles are constantly changing.</i>  <i>To search for up to date material in your area we would recommend you search for the name of your local papers plus the terms marine litter or marine pollution or marine debris. We found good articles using all of the internet searches below:</i> <ul style="list-style-type: none"> <li>- Irish Times + marine litter</li> <li>- Irish Independent + marine litter</li> <li>- Irish Examiner + marine litter</li> <li>- Marine litter on the Journal.ie website</li> </ul> Ask the children to read and compare the articles in a paired reading activity. The	

	<p>teacher may read the articles for the students if he/she feels they are too difficult for their comprehension skills.</p> <p>The children identify the, who, what, why, where, when and how, of the newspaper articles in pairs or in groups.</p> <p>The children then answer questions based on their comparison:</p> <p>Are there differences between the stories?          Is one newspaper biased or does it favour a particular side?          Does any paper have more pictures?          Does any paper write more about the topic?          Is the article on the front page in any of the papers?</p> <p>The children then have some individual think time to consider the different audiences which the different newspapers may have.</p>
	<p><b>Resources</b></p> <p>Newspaper articles on Marine Litter (three attached at the end of this lesson plan)</p>
<p><b>Differentiation</b>          Higher and Lower order questioning. Differentiate group activities and roles to account of individual needs, by support, task. Mixed ability pairing.</p>	
<p><b>Assessment</b>          Teacher Observation and Questioning.</p>	
<p><b>Linkage and Integration</b>          Science: The students discuss the impact of marine litter and pollution on living things.          Geography: Ask the students to identify the locations mentioned in the news articles in an atlas or on a globe.          SPHE: The students develop empathy on how this topic affects people and other living creatures in the environment.          Oral Language: Ask the students to share one fact from the article that they found interesting with the class.</p>	

**Article Number 1:**

**Citizen science and consumer power take to the coast**

**Written By: Lorna Siggins for the Irish Times on April 4<sup>th</sup>, 2014**

Synthetic clothing, skin exfoliants and toothpaste may not sound too toxic, but to a lugworm or filter-feeding mussel they are lethal poison.

Tiny plastic particles, known as microbeads, used in their manufacture are causing havoc in the marine environment and the associated food chain.

“Why do we want to be scrubbing ourselves with small pieces of plastic anyway?”

Prof [Richard Thompson](#) of the British University of Plymouth asked a gathering in Dublin this week, as he handed around a sample extracted from a 500ml cosmetic tub. The particles accumulate large quantities of pollutants, many of them banned.

As he pointed out, the loyal recyclers of plastic drinking water bottles and other household waste have little or no idea of wider complicity in the global microplastic industry.

International research in which Thompson collaborated found that each time a polyester garment is washed, it emits over 1,900 fibres down the drain.

**Hard to stomach**

Unwitting “eco-engineers”, such as shoreline worms, can be the first victims of the microplastics in these fibres, as ingested particles can clog up their digestive systems.

Sewage treatment plants can capture up to 50 per cent of particles found in cosmetic products, Prof Thompson said, but the other 50 per cent finds its way into rivers and oceans, and, very possibly, back into our food chain.

What’s worse, Thompson noted, about 8 per cent of world oil production is used to make these and other plastic products. Plastic, in turn, comprises about 80 per cent of all marine litter, which poses a serious risk to some 600 species.

Yet the situation is complex, as plastic does prolong the shelf life of food, and some forms of it are better than others, he told fellow participants at [Marlisco](#), the first in a series of EU-wide seminars on marine litter hosted in Dublin by University College Cork’s (UCC) Coastal and Marine Research Centre.

Facilitated by Newstalk radio presenter Seán Moncrieff, Marlisco involved representatives from State agencies, private companies and NGOs, with 15 satellite groups – from Kerry to Sligo to Portmarnock north Dublin – participating on a live stream link.

A short animation made by [Jane Lee](#) with Dr [Tom Doyle](#) of UCC was a particularly effective scene setter, as a sea turtle mistook a child’s balloon for jellyfish, gulls and chicks were poisoned and gannets were throttled by detritus and ropes.

A photograph of a dead albatross from Midway island in the north Pacific showed how its stomach was replete with junk.

Thompson – acknowledged world expert on marine litter – with [Jim Armstrong](#) of Plastic Recyclers Europe, An Taisce’s coastal programmes manager Annabel FitzGerald and [Environmental Protection Agency](#) inspector [Patrick Chan](#) – steered a lively discussion on practical actions, and heard of Repak’s success rate in recapturing and recycling.

Transition year students from Coláiste Dún Iascaigh in Cahir, Co Tipperary, screened their documentary, Fish for Thought .

A “plastic levy”, a plastic bottle deposit refund scheme, positive “pester power” by the young, clearer product specification, fishing for litter and a ban on plastic microbeads were voted as the most popular proposals. They will be forwarded to Europe.

Doyle, who co-ordinated the conference, is a firm believer in the value of “citizen science”, noting that companies do respond to consumer power. “Body Shop has undertaken to phase out use of microbeads in its cosmetic products,” he says.

surveys will be held in collaboration with the National Biodiversity Data Centre’s annual “Bioblitz”, at Derrynane, Co Kerry, Dr Firth says.

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**Article Number 2:**

**Sun lovers urged to combat scourge of litter on beaches**

**Written by Caroline Crawford Twitter for the Irish Independent on 21<sup>st</sup> June 2014**

WITH thousands of people set to descend on beaches and coastlines around the country this weekend, An Taisce is urging people to take part in a two-minute beach clean-up.

More than half-a-million pieces of litter were collected from the Irish coastline last year, with 80pc of the litter coming from land-based activities.

Clean-up groups organised 700 clean-ups throughout the year, resulting in a massive amount of rubbish being removed from the coastline.

Annabel Fitzgerald, Coastal Programmes Manager of An Taisce, said the true amount of rubbish collected from the coastline may be much higher.

"Last year there were 700 registered clean-ups throughout the year and probably many more. And we removed from the coastline just over half-a- million pieces of marine litter items – it was quite significant.

"But that doesn't take into account the work of other NGOs in this area. I know that Coast Watch do marine litter surveys and ecological surveys as well.

"If you were to add those clean-ups to the loop, I'm sure we'd be removing much greater amounts than just half-a-million litter items," she said.

She reiterated that 80pc of litter found on the coastline comes from land-based activities.

Recreational litter, bottles, litter associated with fishing and sewage-related debris make up the vast majority of the litter.

"We find a lot of fishing litter, bits of rope nets, fishing boxes washing ashore.

**Debris**

"We also find quite a lot of sewage-related debris, things like cotton buds, sanitary products, things that people are actually flushing down the toilet that they should be disposing of correctly," she said.

The body now wants to get more people involved in the two-minute beach clean-up to raise awareness of the growing problem.

"It's a really simple and inspired idea," said Ms Fitzgerald. Speaking at a recent EPA conference in Galway, she urged beachgoers to spend just two minutes picking up litter, taking a photo of it on their mobile phone and sharing it on Facebook and Twitter with the hashtag #twominutebeachclean.

"It's basically a great way of getting individuals involved in beach cleans. It's about raising awareness of marine litter and it's creating a sense of environmental responsibility among all of us.

"I think one of the things we have found out of this is that people are surprised at how much litter they can actually collect in two minutes. So please get involved – the next time you are at the beach for whatever reason, just pick up a couple of pieces," she added.

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**Article Number 3:**

**Sea dumps rubbish back at us**

**Written by Donal Hickey for the Irish Examiner on 13<sup>th</sup> of January 2014**

RECENT storms and awesome tidal surges not only did enormous damage to the coastline, they also washed in a startling volume of waste showing that large-scale dumping takes place at sea.

A post-storm walk along a south-western shoreline, in the past week, revealed a variety of discarded materials, mainly plastic but also pieces of fishing nets, Wellingtons, containers, food utensils, bottles and much more.

Not only is this stuff thrown overboard from vessels at sea, litter from land sources also gets into sewers, streams and rivers and ends up in the sea, posing additional threats to fish and the general marine environment.

According to the Irish Environment website, about 10% of marine waste is discarded fishing gear. Fish, birds and other sea creatures swallow pieces of litter that can eventually kill them. Globally, at least 43% of cetacean species (such as whales and dolphins), all species of sea turtles, about 36% of the world's seabird species, and many species of fish have been reported to ingest marine litter. There is, of course, a cost to be borne through beach cleaning, loss of tourism from littered beaches and coasts, fouled ship propellers, and damaged fishing gear.

A further problem is that plastic can endure in the environment for hundreds of years and, rather than simply rotting and disappearing like other forms of waste, it partially breaks down from sunlight and into tiny particles.

All this rubbish and smaller plastic particles are gathered together and moved around by ocean currents, eventually forming vast "patches" of plastic waste, one of which in the Pacific Ocean is about the size of Europe, says Irish Environment.

Marine species get entangled or entrapped in plastic materials, and ingest the tiny particles. Studies show that 52 species of marine mammals have been affected, a million seabirds have been killed, coastal habitats have been destroyed, and seabeds smothered. Human health can be affected when people eat fish that have consumed tiny particles of oil-based plastic. Only about 21% of plastic is being recycled in the EU. Much of the rest is landfilled or left on land from where it can be washed into the sea.

In a 2012 EPA report, Ireland's marine environment is treated as an "emerging issue," along with fracking and the legacy of the Celtic Tiger. Within the marine environment, marine litter is mentioned as one of the pressing issues, including overfishing.

Irish Environment says the EU and our government can take direct action to ensure plastics are recycled with the issue of waste at sea presenting, perhaps, a stiffer challenge.

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