

Sustainable Materials

Focus on Marine Litter and Plastics

Marine litter and plastics

Forty per cent of the Irish population live within 5km of the coast. Protecting our marine environment is important for our economy, tourism, biodiversity and general well-being.

Marine litter poses a threat to not only marine organisms but us humans as well. ‘Marine litter’ is any man made material that ends up in the marine environment. Approximately ten million tonnes of marine litter enter the world’s oceans and seas each year. What we find on beaches is only a small representation of the marine litter in the environment.

Ocean Jenga

| Examples of Situations which harmed the marine environment | Examples of Situations which helped the marine environment |
|--|--|
| 1. | 1. |
| 2. | 2. |
| 3. | 3. |
| 4. | 4. |
| 5. | 5. |

Breakdown Game

(Resource from Leave No Trace Ireland
www.leavenotintraceireland.org)

| Material | Prediction | Actual |
|---|------------|-----------------|
| Aluminium can | | |
| Apple | | |
| Banana | | |
| Camping chair | | |
| Cardboard | | |
| Coffee cup with lid | | |
| Crisp packet | | |
| Glass bottle | | |
| Nappy | | |
| Plastic bottle | | |
| Time Spans to choose from: | | |
| Up to 2 years | 500 years | 450 years |
| Forever/ Never | 3 months | 250 years |
| | 80 years | 1,000,000 years |
| Which item and length of time to break down surprised you the most? | | |
| | | |

Life Cycle Discussion

| | |
|--|---------------------------------------|
| Name of Material: | |
| Life Cycle Steps: (eg. processing) | Actions we can take to reduce impact? |
| 1 | |
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| 6 | |
| 7 | |
| 8 | |
| Can you think of any other actions we could take to reduce the impact of this material to the ocean? | |

Beach Clean Data

What's on our shore?

| | | | |
|---|---|---|-----------|
| Beach Name: Coral strand | | Total No. of Bags collected: 4 | |
| Group Name: | | Total No. Foreign or traceable items: | |
| Date of Survey: 4/12/2018 | | 0 | |
| Weather Conditions: Sunny and cold | | Total No. of Unusual Items: 3 | |
| Example of how to count items | Drink Cans | | TOTAL: 15 |
| | Caps / lids | | TOTAL: 20 |
| Total for each item | | Total for each item | |
| Plastic | | Cloth | |
| Bags | | Cloth pieces / string | |
| Bottles / Containers | | Clothing / shoes | |
| Cigarette lighters | 1 | Metal | |
| Crisp / sweet wrappers | | Cans | |
| Cutlery / straws | | Drink cans | |
| Fishing Net | | Fishing weights | |
| Rope | | Foil wrapper | |
| Toys | | Food cans | |
| Plastic pieces | | Metal pieces | |
| Polystyrene | | Wire and wire mesh | |
| Fast food containers | | Other (specify) | |
| Polystyrene pieces | | Medical | |
| Packaging | | Plasters | |
| Rubber | | Wet wipes | |
| Balloons | 1 | Nappies | |
| Gloves | | Paper | |
| Tyres | | Bags | |
| Rubber pieces | | Cardboard | |
| Other (specify) | | Cigarette stubs | |
| Glass (be careful picking up broken glass) | | Newspaper / magazines | |
| Bottle | | Paper pieces | |
| Glass pieces | | Wood (note: driftwood should be left on the seashore) | |
| Faeces (DON'T TOUCH!) | | Pallets / crates | |
| Other Pollutants | | Ice Lolly sticks | |

Beach Clean Data Questions

Name the top five things identified during your beach clean?

- 1.
- 2.
- 3.
- 4.
- 5.

Can you identify who is responsible for each item?

(Individual and /or industry?)

- 1.
- 2.
- 3.
- 4.
- 5.

Discuss in your group an action that could be taken to reduce the impact of these items on the ocean:

- 1
- 2
- 3
- 4
- 5

Ocean Jenga

Design your own game

Design your own Jenga Cards below and play the game with your group.
Remember to write both positive and negative situation cards.

| | | |
|--|--|--|
| | | |
| | | |
| | | |
| | | |

Some other useful sources of information on marine litter:

General information:

<http://www.marlisco.eu/>

<http://www.leavenotraceireland.org/>

<http://cleancoasts.org/marine-litter/>

<http://coastwatch.org/europe/>

https://greenschoolsireland.org/resources/theme_category/global-citizenship-marine-environment/

<http://www.deepmapscork.ie/environmental-priorities/pollution/marine-litter/>

<http://www.epa.ie/irelandsenvironment/water/>

<https://www.un.org/sustainabledevelopment/oceans/>

<https://www.beaches.ie/concern-about-the-potential-risk-of-microplastics-in-our-environment/>

Campaigns

<http://thinkbeforeyouflush.org/>

<https://www.beaches.ie/just-2-minutes-of-your-beach-time-can-make-a-difference/>

<http://cleancoasts.org/our-initiatives/beat-the-microbead/>

<https://skyoceanrescue.com/>

<https://oceanconservancy.org/trash-free-seas/international-coastal-cleanup/cleanswell/>

Community action: Success stories 😊

There are many local and international stories about the positive impact individuals, schools and communities can make to our marine environment. Below are just a few examples.

Can you and your students help to make a difference too?

Clean Coasts Big Beach Clean

In 2018 across the coast of Ireland 194 beach cleans took place with 3,652 volunteers. This community action led to the removal of 32 tonnes of marine litter from our coastline. Meanwhile, across the world, 789,138 volunteers in more than 100 countries collected nearly 9.3 million kilograms in International Coastal Cleanup events in 2018. Top 5 items removed were: cigarette butts, food wrappers, plastic bottles, plastic bottle caps, plastic grocery bags.

<http://cleancoasts.org/our-initiatives/big-beach-clean/>

Fishing for litter scheme

Campaign started in 2015 whereby fishermen in Ireland have voluntarily collected more than 190 tonnes of marine litter in their normal fishing activities using in their fishing nets. Now operating in 12 ports throughout Ireland with more than 90 fishing vessels supporting the scheme to remove litter from our ocean.

<http://www.bim.ie/our-work/projects/fishing.for.litter/>

Plastic bag levy Ireland

The 2002 introduction of the plastic bag levy (22 cents) has reduced the use of plastic carrier bags by over 90%. This has led to a reduction of one billion plastic bags entering the marine environment in Ireland. Any revenue generated from their sale goes into an Environmental Fund for green projects.

<http://www.irishenvironment.com/iepedia/plastic-bag-levy/>

A plastic free school

A group of transition year students from Newpark Comprehensive School in Blackrock launched the 'Plastic Outta The Park' campaign as part of an ECO-UNESCO Young Environmentalist Project in 2018

<https://www.newparkschool.ie/plastic-outta-the-park-rte-report-on-newparks-plastic-free-policy>

Self-Evaluation Sheet

Please score yourself in each section below:

| Before Score | Knowledge | After Score |
|--------------|--|-------------|
| | I know about the Ocean around Ireland | |
| | I know how long it takes for materials to degrade | |
| | I know about the impact of marine litter on our ocean | |
| | I know about actions we can take to reduce this impact | |
| | ← Calculate Totals → | |

0 = something you don't know anything about/ never heard of

5= something you know a great deal about

| Before Score | Attitudes and Values | After Score |
|--------------|---|-------------|
| | I think the Ocean is important to my daily life | |
| | It is important to protect the ocean for the animals and plants that live there | |
| | I believe I have a responsibility to protect the environment | |
| | I think I can take actions which will reduce the impact of marine litter on the ocean | |
| | ← Calculate Totals → | |

0 = something you strongly disagree with

5= something you strongly agree with

| Before Score | Actions | After Score |
|--------------|--|-------------|
| | I can talk about Marine Litter | |
| | I feel confident in discussing the impact of marine litter | |
| | I can share information about marine litter in different ways | |
| | I can list simple actions I can take to help protect the ocean | |
| | ← Calculate Totals → | |

0 = something you never think of or intend to do

5= something you always think of or intend to do

On completion of the workshop:

List 3 simple actions you or your school could take to protect the ocean:

- 1.
- 2.
- 3.

Any other suggestions: