

# Pollution

Topic: Pollution

# Pollution

## Introduction:

Pollution is the introduction of something into the natural environment that causes adverse changes.

Some pollution is visible whilst other types are not. There are many kinds of pollution that threaten the marine environment. This lesson will focus on just one - plastic pollution. This type of pollution provides a good example because the effects are so considerable and actions to combat it can be taken at an individual level.

Plastic enters the oceans in many different ways. Some gets into the sea from towns and industries far inland, getting washed into rivers and storm drains. Some comes from people leaving rubbish on beaches, whilst other plastic is dropped at sea.

Plastic pollution is a problem for many reasons. It can injure or kill animals through physical entanglement, it may be ingested, and chemical pollutants in the sea build up on the plastic making it toxic. Below are just a few examples of ways plastic is damaging marine life:

- Animals mistake plastic items for food. It fills up their stomachs so they can't eat anymore and end up starving to death.
- When a fishing net or pot is lost at sea it carries on catching animals - this is known as ghost fishing.
- Marine mammals and turtles need to be able to surface to breathe. If they get trapped in floating plastic they may drown.

Plastic pollution is a global problem. Ocean currents are continuously moving around the world, carrying litter from one country's shores to another. Here in Wales we often find plastic from North America and Canada, brought here by the Gulf Stream. Ocean currents can cause huge amounts of plastic pollution to build up in dense patches, in the middle of the ocean. These regions are called 'garbage patches'.

Everybody can help to reduce plastic pollution. Below are a few easy things to do:

- Avoid single use plastic when you can, for example always carry a refillable water bottle with you rather than buying bottled water. Bring your own shopping bags and use reusable straws.
- Never leave rubbish on the beach or river banks. Always dispose of it properly.
- Recycle everything you can.
- Take part in local beach cleans.
- Do not flush anything down the toilet other than toilet paper.

### Further research keywords:

Great Pacific garbage patch, nurdles, lego on beaches, friendly floaties, micro plastic, anthropocene, [oceancleanup.com](http://oceancleanup.com), the Great British beach clean, microfibres, microbeads

# Beach detectives

45 - 60 mins



Teacher's pack

Topic: Pollution

KS: 1/2/3

## Activity guide:

### Equipment required:

- Hula hoops
- Gloves
- Bin bags
- Litter pickers (optional)

### **At the beach:**

1. Lay the hula hoops out on the beach.
2. Divide the class into groups. Go through safety briefing - see below for some points to cover:
  - Keep in sight of the adults at all times
  - Be aware of the tide changing
  - Always wear gloves
  - Do not pick up broken glass, needles or anything you are not sure of
3. Pupils collect as much litter as they can, then bring it back to the hula hoop area and sort it into different groups, by type e.g. bottles, bags, fishing equipment.
4. These groups are then used to start a discussion about what everything is, how it got into the sea and what could be done to improve the situation.
5. There is a sheet included in this pack with a few examples of what you might find and some interesting information about the items to help with the discussion.

# Beach detectives

45 - 60 mins



## Activity guide:

Below are some facts about the things on the beach clean to help get your discussions started.

|   |  |   |
|---|--|---|
|    |   |    |
| <p><b>Nurdles</b> - nurdles are small pellets of plastic. It is the raw material that companies use to manufacture plastic goods. They end up on beaches when containers are lost overboard whilst being shipped across the globe and washed downstream from industrial sites into the sea.</p> | <p><b>Wet wipes and sanitary products</b> - these are flushed down the toilet, but the majority are made of plastic and do not biodegrade.</p> | <p><b>Fishing litter</b> - most nets, boxes, tags, floats and lines used in the fishing industry are made of plastic. They can end up discarded in the sea where they could continue to capture marine life by accident - this is called ghost fishing. Look out for lobster tags from the USA and Canada, you can record the tag numbers and send them to the Marine Conservation Society.</p> |
|    |   |    |
| <p><b>Balloons</b> - released accidentally or for charity events and memorials, they eventually burst and usually end up in the sea where they do not break down and are often mistaken for food.</p>   | <p><b>Disposable BBQ and food packaging</b> - often left on the beach by holiday makers.</p>   | <p><b>Plastic packaging</b> - sometimes you can find plastic packaging with old designs because the litter has been floating around the ocean for years and years.</p>  |

60 - 90  
mins



# Coconut Crusoe

Teacher's pack

Topic: Food chain

KS: 1/2

## Activity guide:

### Equipment required:

- Print the 'Coconut Crusoe' worksheet for all pupils
- Pencils or pens
- Scrap, practice paper or workbooks

### **Before starting the worksheet:**

1. This works best if it is done after the beach detectives worksheet, but can also be done independently if some examples of beach litter are brought into the classroom and discussed beforehand.

### **To complete the sheet:**

1. Each pupil chooses an item of beach litter - either that they found on the beach or that was discussed in the introduction.
2. The pupils write a story about how the item reached Wales and think about all the different environments and species it would have seen on the journey.

# Coconut Crusoe



Choose one of the items you found whilst doing your beach clean and write a story that describes how it got there.

Some things to think about...

Where did it come from? Who did it belong to? How did it get into the sea? Where did it go whilst at sea? What creatures did it meet? How did it end up on the beach in Wales?

-----

-----

-----

-----

-----

-----

-----

-----

-----

-----

-----

-----

-----

-----

-----

-----

-----

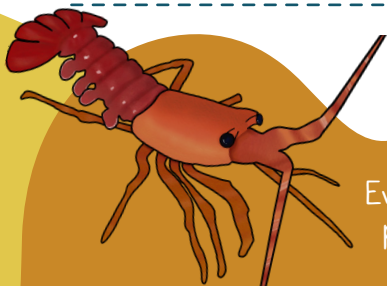
-----

-----

-----

-----

-----

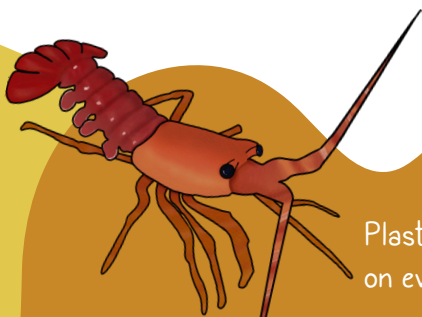


Every day approximately 8 million pieces of plastic find their way into our oceans.

# Coconut Crusoe



A series of horizontal dashed lines for writing, consisting of 15 lines spaced evenly down the page.



Plastic pollution can now be found on every beach in the world.

The end.