



Breaking it down

In the ocean, plastics - Polycarbonate, Polystyrene and PET sink - while LDPE, HDPE, Polypropylene and foamed plastics float on the ocean's surface. Sunlight and wave action cause these floating plastics to fragment, breaking into increasingly smaller particles but never completely disappearing - at least on any documented time scale. This plastic pollution is becoming a hazard for marine wildlife and ultimately for us.



Orientation:

Recycle game: T asks the Ss what 'recycle' means and what 'landfill' means. Elicit answers and write on the whiteboard. (T could even make two columns on the board and get Ss to give some examples of items that could be recycled and items that would go to landfill). T then tells Ss the group will be playing a recycle game. T has some rubbish items at the front of the class plus two bins (rubbish and recycle) and asks Ss what can be recycled? Ss can come up and put the item in the correct bin. This activity can be played with Ss coming up to the front of class individually, or with T preparing a number of rubbish bags with items in them and boxes representing normal rubbish bins and recycle bins. Ss, in their groups, have to decide what items can be recycled and what items will go to landfill. T could even give the Ss a time frame (e.g. 2 minute timer) to make it more exciting. T and Ss can talk about what items they chose for recycle and landfill and give some reasons why.

Letter from Malmo:

PowerPoint presentation 5: this PowerPoint presentation shows how plastic is spread around the ocean and how it breaks down into small pieces and can harm wildlife.

YEAR LEVEL

Foundation – Year 3

MATERIALS

PowerPoint presentation
F-3 Lesson 5.ppt

Equipment for Ss to watch
PowerPoint presentation

How to make a plastic
skipping rope materials
(at end of PowerPoint
presentation 5)

Pieces of paper or cardboard
for role play activity

Materials for paper recycling
(see lesson plan extending
activities)

KEY WORDS

- Landfill
- Recycle
- Waterways
- Flow
- Gyre
- Plastic resin pellets
- Melt
- Heat





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Plastic design:

In Lesson 2 Ss researched some items that are made out of recycled materials. This project can extend on their research where the students can now make their own creations out of plastic, e.g. a small plastic boat made from plastic bottles or a plastic skipping rope made from plastic bags. T can direct this activity to suit Ss. Only materials from the recycle bin are needed! Ss can discuss as a class what they made individually, or perhaps can brainstorm what they would like to make as a whole class activity. If T chooses to make skipping ropes, then they could be something that Ss use at lunchtime and show other students.

Role play:

Use the Role Playing Cards at the end of the lesson plan to create scenarios for Ss to act out. Ss take turns acting the different roles related to the marine debris issue and come up with an impact and solution for each scenario. Ss may like to sit in a circle and then go in the middle to act out the scenarios, or they might like to do it in groups. Depending on what facilities are available at your school, you might like to film the role play for Ss to view later.

Recycled paper:

Ss investigate how paper is broken down and can be recycled. Make some recycled paper with your class!

Items you will need:

Paper, blender, large bowl or tub, mould and deckle, felt, sponge and towel.

Step 1:

Tear your waste paper into small pieces, approximately 2.5cm across, and put them in the blender pitcher, filling it loosely to the halfway mark. Add warm water to the top fill mark. Put on the lid and blend the mixture at low speed to start and then at medium until all the paper is reduced to pulp. Pour the pulp into a large bowl or tub; repeat the entire process twice. Add warm water to a depth of 7.5-10cm. Stir the pulp and water together.

Step 2:

Set the deckle (a wooden frame with the inside dimension at the desired size) on top of the wooden mould and attach a piece of fine mesh screening. Dip both together into the bowl of pulp, submerging them. Swirl the mould and deckle until the screen surface is covered with pulp. Pull them up out of the bowl, keeping them level. Allow excess water to drain back into the bowl.

Step 3:

Remove the deckle, and set it aside. Place a piece of felt over the paper and mould. Placing a palm under the screen and one over the felt turn the 'sandwich' over so the felt is on the bottom, the paper is in the middle and the mould is on top. Set it down on a towel. Press a clean sponge against the screen to absorb as much liquid from the paper as possible. Lift one corner of the mould; the paper should stick to the felt. Carefully peel the screening away, leaving the new sheet of paper on the felt. Let it dry completely.



Role Playing Cards

FISHERMAN

Fisherman digs holes in the creek banks to catch worms.

Leaves fishing line in the water.

Leaves plastic bait bags behind.



PICNICKERS

Picnickers put rubbish in an overflowing bin.

Some rubbish falls on the ground next to the bin and gets left behind.



SWIMMER

A swimmer leaves a plastic bag behind on the beach.



TRIATHLETE

A runner drinks some water from a plastic cup and throws it on the ground during the race.

The race officials don't organise anyone to clean it up.



TRUCK

A truck driver doesn't tie their load down properly and plastic gets blown off the back whilst they are driving.



BIRTHDAY PARTY

Some kids have a birthday party down by the river and leave the popped balloons on the river bank.

