WASTE

Activity W06

Theme
Class activity (CA). Looking at the amounts and types of packaging waste from a range of goods families typically buy every week.

Objectives
Taking a closer look at packaging and thinking about amounts of waste created. This helps to develop analytic and questioning skills as well as fostering better environmental behaviour.

Curricular Strands
SESE, Science–Materials; Properties and characteristics of materials

SESE, Science and Geography–Environmental awareness and care

Skills
Questioning, observing, predicting, investigating, sorting, classifying, recording and communicating

Time
10 minutes the day before; 10 minutes for the introductory activity; 20–30 minutes to complete the survey; 10 minutes for questions and discussion. The activity could be split over two lessons, with the first part grouping and counting and the second the packaging survey.

Links to Green Schools
Waste and Litter

Fan of wrap?

→ INVESTIGATING PACKAGING WASTE

WHAT YOU NEED

- Cloth shopping bags, one per group of six
- Plastic shopping bags, one per group of six
- A few sample items to compare, e.g. some loose apples and some packed on a tray and wrapped in plastic or cling film

WHAT YOU DO

The day before

1 Ask each student to bring in two items from home that were bought as part of the weekly shopping, one with as little packaging as possible, one with as much packaging as possible. The teacher may wish to supply some items, instead of asking students to bring them.

2 As examples of more packaged and less packaged goods you could have apples or other fruit loose in a cloth shopping bag compared with apples on a tray covered in plastic film and in a plastic bag.

3 You can make a shopping list to encourage children to think about the different types of products (tinned food, toiletries, cleaning products, beverages, bread) that make up a weekly shop.

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Introductory activity

1 Divide the class into groups of six. Give each group a plastic bag and a cloth bag.

2 Remember to avoid damaging the items! They should be returned home in good condition, with only the outer packaging opened where necessary.

3 Each group places their least packaged items in the cloth bag and the items with most packaging in the plastic bag.

4 Each group counts and compares the number of individual pieces of packaging (e.g. a plastic outer wrapper, a box, an inner wrapper, a plastic tray) in their shopping bags. You could record and compare these results on the blackboard.

Questions

1 Discuss why goods are packaged (e.g. to protect products, to make products attractive to the consumer). Why is there so much packaging? Is the product perishable? Is the product fragile? Does the packaging attract attention to the item? Is it waterproof, tough or durable? Will it stand out more on a shelf than another product?

2 Talk a little about the materials the class have found and what they are made from. Are they biodegradable? Will they rot or breakdown? Answers can be given on the packaging survey sheet attached.

3 Discuss the idea of consumer power—we can choose items with less packaging. If enough people do this, might suppliers and shops take notice?

The survey

1 Show students the packaging survey sheet and get them to draw up their own blank tables.

2 Groups should look at the contents of the plastic bag (excessively packaged items) and complete the packaging survey sheet (you can limit this to whatever number of items you wish depending on the time available).

3 Ask each group to report back, focusing on their ideas for reducing packaging or making it more environmentally friendly.

4 Students can use the plastics recycling symbol information card supplied to sort the plastics for recycling and find out what they can be used for.

Go further

1 In 2001 every person in Ireland was responsible for producing 375kg of household waste. What is the average weight of a child in your class (you can estimate this to avoid personalising the issue). How many children would it take to make up 375kg?

2 The exercise could be done at different times of the year to see if the results are different: (e.g. Christmas and Easter are times when a lot of packaging is used for toys and sweets).

3 Pupils could conduct a survey of packaging in their own home and discuss the results in class.

PACKAGiNG SURVEY

What is packaging made from?

Packaging Material	Biodegradable?	Raw Material
Plastic	No	Oil
Beverage can	No	Aluminum
Food can	No	Tin
Paper/cardboard	Yes	Wood

Item	Number of pieces of packaging	Describe each piece of packaging and what it is made from	Is it biodegradable? Will it rot or breakdown?	Can it be recycled in your bin collection or at your local recycling centre	How could you make packaging more environmentally friendly by reducing the packaging or using biodegradable materials?
Example: Packet of biscuits	4	An outer wrapper A cardboard box A plastic tray An inner plastic wrapper	No Yes No No	No Yes No No	A cardboard tray could be used or no tray at all. The outer layer of plastic packaging is not needed

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Symbol & Description	Description & Uses	Recycled into:
Polyethylene  → PET is a clear tough plastic → Forms a good barrier and prevents liquid or gas from getting in or escaping	→ Mainly used in soft drink bottles → Plastic food jars peanut butter and tomato ketchup bottles	→ Recycled pellets of PET are mainly used to make a fibre/material called polyester → Clothing, bags, fleece jumpers, carpets → Beverage containers, luggage and bottles
High density Polyethylene  → HDPE is a clear/coloured stiff and tough plastic → Does not let moisture through → Very resistant to chemicals	→ Mainly used in packaging household chemicals such as bleach → Also plastic milk bottles, shampoo, yogurt tubs	→ Recycled HDPE is used in a number of strong heavy duty plastic objects → Buckets, crates, flower pots, recycling bins, benches, picnic tables
Polyvinyl Chloride  → Resistant to chemicals → Blended easily to make a flexible or rigid plastic	→ Wire and cable insulation, medical tubing, clear food packaging → Construction pipes, floor tiles, window frames	→ Packaging → Gutters, mud flaps, electrical boxes, garden hose, traffic cones
Low Density Polyethylene  → Tough, flexible & transparent	→ Used mainly as a plastic film i.e. bread and frozen food bags, dry cleaning → Squeezable bottles	→ Bin liners, shipping envelopes → Compost bins, floor tiles.
Polypropylene  → Good chemical resistance → High melting point	→ Ketchup bottles, yoghurt containers → Medicine bottles	→ Battery cases, signal lights, oil funnels, bicycle racks
Polystyrene  → Versatile plastic that can be rigid and or foamed → Low melting point	→ Meat & fruit trays in supermarkets, vending machine coffee cups, TV/appliance packaging	→ Thermometers, foam plates and cups, desk trays.