



Waste Free Packed Lunch Challenge: Audit Plan

The Devon Waste Free Packed Lunch challenge is a great opportunity to remind staff and pupils how important it is to reduce, reuse and recycle. To take part, your pupils will need to carry out two audits of your school's packed lunch waste:

1. **Before** you launch the campaign to the rest of the school, to find out how much waste you usually produce (the baseline). Your Waste Education Officer may be able to do this audit with you – email demelza.annison@resourcefutures.co.uk now to make a booking.
2. During the Waste Free Packed Lunch Week (w/b 2nd March 2015).



Between the two audits you should spread the message to the whole school about reducing packed lunch waste, choosing your key messages based on the findings of your first audit. Your second audit will help you assess whether your campaign has been successful. If you are working for an Eco-Schools award, don't forget to keep the data from your audits to show your Green Flag assessor!

The audit takes about 1.5 hrs during an afternoon, and is suitable for any class from Y2 upwards, or for your Eco Committee / School Council. You could choose to let the same group of children conduct both audits, or choose a different group / class in order to involve more pupils in your waste education work.

Learning objectives

Children should learn:

- that reducing waste should be considered before reusing and recycling
- that people can reduce the amount of rubbish they create by considering what they buy
- to ask and respond to geographical questions
- to collect and record evidence to answer questions

There are also plentiful links to the maths curriculum: number, data handling, weighing and percentages as appropriate to the age of the pupils.



Preparation

Time: approx 1½ hrs **Space:** a normal classroom

The audit needs one day's waste from all pupils' packed lunches, including uneaten food. The waste should be collected in strong bin bags (or similar). Ensure that the adults who supervise pupils at lunch time know what is happening, and that the packed lunch waste is not mixed with waste from school meals. Members of your Eco Committee could act as 'monitors' in the dining hall, to ensure that everybody remembers to put their waste in the correct bin(s).

Equipment (for a class of 30 pupils working in 5 groups):

- 30 pairs of gloves (ideally reusable gardening gloves that can be washed after the audit; disposable gloves can be used if these are not available)
- antibacterial hand soap and cleaning spray; cloths (e.g., j cloths)
- 5 large tables; 5 results sheets; 5 carrier bags; weighing scales (hanging if possible)
- 30 sheets of paper approx A3 size (preferably used on one side) and felt tip pens

Before conducting the audit:

- 1) Download the packed lunch waste audit **pupil recording sheet** from the website (zone.recycledevon.org/waste-free-lunch) and print one per group.
- 2) Download the packed lunch waste audit **spreadsheet** from website. (You only need to do this for your first audit; for the second audit, use the same spreadsheet.)
- 3) Source a landfill site image from the above link to display on your IWB during the introductory whole-class discussion.
- 4) On the day of the audit, find out how many pupils have had packed lunches.

The audit

Whole class discussion

How the introductory discussion is focused will depend whether the children are conducting your first or second audit, and how much they already know about waste issues.

1. For **first** audits: the problems with 'rubbish'

- Ask pupils who has thrown some rubbish in the bin this week. Do they know where it goes?

Pupils will probably suggest that our rubbish is taken to the 'dump' and some may be familiar with the term 'landfill site'. There are many environmental problems associated with landfill: it takes up space which could be used in other ways; our landfill sites are filling up fast, and many have already had to be closed; resources buried in landfill cannot be used again.

It is also becoming increasingly expensive to dispose of our waste this way, so in Devon we are beginning to burn our rubbish instead. Pupils may have heard the term 'incinerator'; introduce the more accurate phrase 'Energy from Waste' (EfW) plant. Explain that here the rubbish is burned to generate electricity; however, resources are still lost and cannot be used again.



- *In 2013/14 households in Devon threw away 363,000 tonnes of waste – this includes 'rubbish', composting and recycling. Nearly 55% of this is recycled or composted, which is great news, until you realise that it still means 163,000 tonnes needs to be disposed of! Until recently this other waste went to a landfill site. However, from spring 2015 Devon will be sending 27% of its waste to one of the two new EfW plants being built; one in Exeter (fully operational August 2014) and another in Plymouth (due to be operational in spring 2015).*
- BUT we still need to send less rubbish to landfill and EfW plants. Focusing on reducing and reusing will help us to do this.
- Ask pupils to think of ways that the school implements the 3Rs (Reduce, Reuse and Recycle) to help with these problems and care for the environment.
- Reducing and reusing also save the energy used when waste is collected for recycling, and help us to use less of the earth's resources in the first place. This is why they come before recycling in the waste hierarchy.



2. For **second** audits: the results from your first packed lunch waste audit

- Revisit the waste facts above, as appropriate to the group of children.
- Show pupils the bar chart from your first audit and discuss the key findings.
- What have we been doing recently to reduce our school's packed lunch waste?
- How would we like the chart from today's audit to look?

3. For **first** and **second** audits: Introducing the activity

- Weigh the bags of waste, and enter the total mass (in kg) into the spreadsheet.
- Enter the number of pupils having a packed lunch today; the spreadsheet will calculate g / pupil.

- For second audits, discuss whether the g / pupil figure has decreased since the first audit. If it has not, emphasize that this does not necessarily mean your campaign has been unsuccessful. Plastic is very light, so a decrease in the number of pieces of cling film or crisp packets could be difficult to spot by weighing the waste. This is why this audit asks pupils to count the categories.
- Explain that pupils are going to investigate what is inside the bags. They will be divided into groups, and sort a pile of rubbish into the following categories:

- a) paper & card b) metal c) plastic d) drink cartons
- e) crisp & snack wrappers f) other g) food

Categories a) to f) will be sorted onto the labelled A3 sheets of paper. The food will be put into the carrier bag, ready to be weighed.

- Pupils may ask why crisp and snack wrappers are not categorised as plastic. Explain that they are made from a composite of metal and plastic. Similarly, drink cartons are mostly cardboard, but also contain a waterproof layer of plastic or metal.
- Once the waste has been sorted, pupils will count the number of pieces in each category, and weigh the food waste.
- Discuss the potential risks associated with this activity. Emphasize the importance of wearing gloves at all times while handling the waste, and keeping hands away from the face while wearing the gloves.



4. The activity

Working in mixed ability groups, pupils:

- Label the A3 sheets with the criteria for sorting: paper & card, metal, plastic, drink cartons, crisp and snack wrappers and other.
- Arrange their sorting sheets around the table, and add a carrier bag for food waste.
- Sort the waste, count the number of pieces on each pile, and record their results.
- Weigh their carrier bag of food waste and record their result.
- Tidy up, and clean the tables using antibacterial spray. (It is recommended that an adult should use the spray, and pupils wipe the tables.)
- Take off their gloves and wash their hands using antibacterial soap.

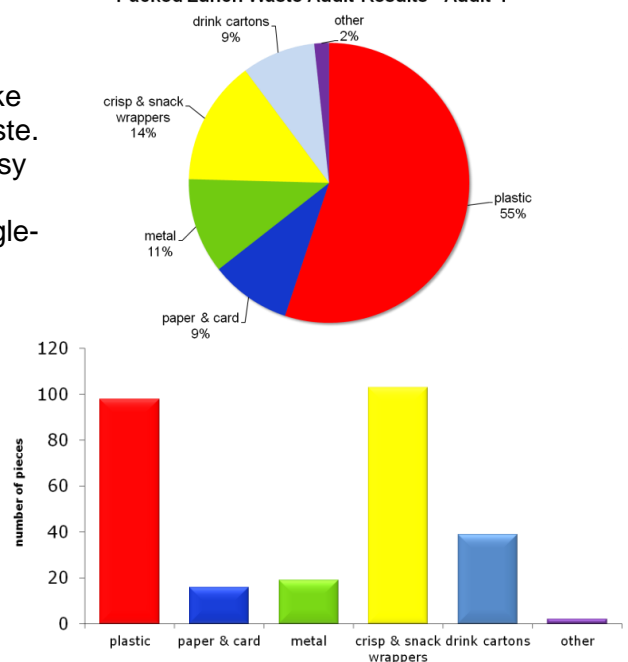
5. Whole class discussion: sharing and interpreting results

- Enter the group results into the spreadsheet.
- Display the bar / pie chart for the relevant audit and discuss what it shows.
- For first audits: identify the key actions you would like pupils / parents to take to reduce the packaging waste. Keep these simple and focus on actions that are easy and low cost e.g.,
 - ✓ use refillable bottles for drinks instead of single-use pouches / cartons
 - ✓ use plastic boxes for sandwiches instead of clingfilm / foil
 - ✓ avoid heavily packaged snack packs.

The main focus should be on choosing alternative packaging to reduce waste, rather than improving recycling / composting facilities in the dining hall (although this may be a secondary outcome of the audit).

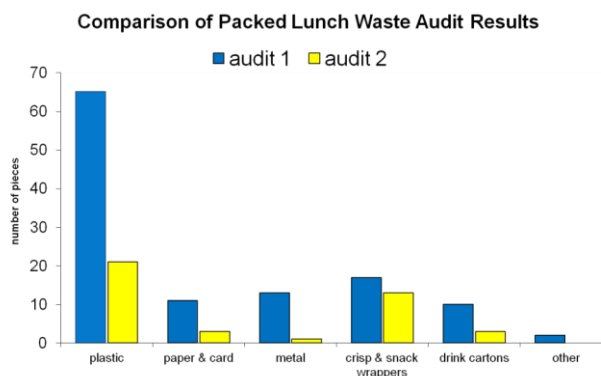
- If your pupils have been surprised by the amount of food waste found during the audit, you may also want to discuss the reasons for this and strategies for reducing it. Some of these are likely

Packed Lunch Waste Audit Results - Audit 1



to involve the food put into lunchboxes by pupils and parents; others could focus on school systems (e.g., changing the seating plan in the dining hall to encourage pupils to eat more of their food; adjusting the timing of lunchtime clubs so that pupils do not feel rushed to finish their food.) It may be appropriate to tackle the issue of packaging waste first, then revisit to your audit results and address issues around food waste.

- For second audits: display the bar chart that compares the results of the audit. What does this chart show about the success of the Waste Free Packed Lunch campaign?



After the first audit

- Share your audit results with the rest of the school and with parents as soon as possible e.g., in assembly; on your Eco-Schools notice board; in your parents' newsletter; on your school website.
- Share the key actions that you want everybody to take to reduce the school's packed lunch waste.
- Make sure everybody understands WHY reducing waste is so important, and also that your school could win a prize in the Devon-wide competition!

After the second audit

- Share your results with the rest of the school and celebrate your successes. Don't forget to let parents know the outcome of the campaign, and thank them for their support.
- Urge pupils and families to keep up the good work - reducing waste is important all year round, not just during high-profile campaign weeks.
- Consider repeating the audit in a few months' time – you could even incorporate it into your maths scheme of work and repeat it each year.
- Email your spreadsheet, along with your competition entry form, to demelza.annison@resourcefutures.co.uk.
- The competition entry form and terms and conditions can be found on the website: zone.recycledevon.org/waste-free-lunch