

Waste audit

Learning Objectives

- Investigate the different categories of school waste and ways of monitoring the volume.
- Record and analyse waste data.

Curriculum Links

Maths, Science, Citizenship

Sustainable Schools Doorways

Doorway 4 Purchasing and Waste



Materials:

- Bagged rubbish;
- old carrier bags (eight for each group);
- 10-20 large bin bags;
- spring balances or Newton meters;
- ground sheet/floor covers;
- clipboards with copies of the recording sheet;
- rubber gloves (one pair for each adult and child);
- overalls, or old clothing.

A. Preparation

1. Identify an 'average' school day on which you will audit your school's waste (e.g. not during events, the end of term clear out, or when groups are out of school). Let all staff know when the audit will take place.
2. Carry out a risk assessment for the activity.
3. You may want to send a letter home to parents to inform them about the activity, ask them to provide clothing and possibly to request adult volunteers to support the activity in school.
4. Ask the site manager/caretaker to save one day's waste from the entire school, including non teaching areas such as bathrooms, staff rooms, offices and external areas, e.g. the playground.
5. Ask the site manager/caretaker to look through the bags to remove sharp objects and label each bag with the area of the school it came from (e.g. classroom 1, playground). Ensure that bags of food waste are clearly labelled and kept separately. Store all bags of waste safely overnight.

B. The audit

1. Explain health and safety issues to the students, for example, gloves must be worn before touching any waste, students should call an adult if they see any sharp objects in the rubbish etc.
2. Weigh all bags containing food waste (e.g. from the canteen) with the whole class, log the results in grams on the recording sheet and dispose of the waste in the usual manner.
3. Divide a class into three to four groups. Each group should have a ground sheet to work around, a recording sheet and pencil, and a set of spring balances or Newton meters. Each child should wear protective rubber gloves.
4. Each group should empty the contents of one bag of rubbish at a time onto the plastic mat and sort it into the different types of waste shown on the recording sheet.

5. Groups should have a separate carrier bag for each waste type. They will sort the waste into these bags and weigh them using an appropriate spring balance or Newton meter. Log the results on the recording sheet.
6. Once the contents of the carrier bags in each group have been weighed and recorded, empty them into larger bin bags and re-use the carrier bag.
7. When all bags have been sorted and the data has been recorded, dispose of the waste and recyclables in the usual manner.

C. The follow up

1. The next time the group meets, calculate the daily, weekly and annual waste totals for the whole school. Multiply daily totals by five for the weekly results, and the weekly totals by 38 weeks (the average number of weeks per year spent at school). Work out the percentage of different types of waste produced.
2. Compare waste data from different areas around your school and identify waste 'hot-spots'.
3. Discuss your findings. What are the most common types of waste? Is any of it recyclable? Which type of waste would make the biggest difference if recycled?
4. Use the information from your waste audit to plan or improve your recycling scheme as outlined in the 'Action plan' activity.

Ways to adapt and extend the activity

- If you don't have the necessary equipment, attach recording sheets to each bin on the evening before the audit. Get everyone to tally what they throw in the bin. This avoids the need for sorting the waste by hand and is particularly suitable for smaller schools. The tallies can be used to estimate the relative proportions of materials in each area.
- Ask the students to note down at least five action points that could reduce the school's waste. As a group, decide what the top five actions are and break them into smaller, achievable steps.
- Whilst sorting the waste, get pupils to note down the most common waste items. How could you reduce this type of waste?
- Present your findings to the rest of the school through an assembly or newsletter.
- Repeat your audit after you have set up or improved your recycling scheme. This will show if your recycling system and action plan is effective. It also identifies areas which require further work.

Top tip

Why not contact your local authority recycling department to see if there is anyone that can come and help you run this activity?

PUPIL WORKSHEET: Waste Audit

Date(s) of audit:.....

Area of school	White paper (g)	Coloured paper (g)	Card-board (g)	Plastic (g)	Metal (g)	Glass (g)	Food waste (g)	Other (g)	Total (area)
Example: Classroom 1	200g	140g	80g	40g	0g	0g	100g	40g	600g
Total (material)									

Material	School Total (kg) per day	School Total (kg) per week (x5 days)	School Total (kg) per year (x38 weeks)	%
White paper				
Coloured paper				
Cardboard				
Plastics				
Metal				
Glass				
Fabric				
Food waste				
Total				100%