

Lesson 3 – How much food do we waste?

Students undertake a practical experiment and calculate how much food waste they generate at school (or at home). They extrapolate to calculate how much they generate over a year, then work out how much is wasted at school/in homes in Tasmania and Australia.

Meets Maths ACMNA098 Identify and describe factors and multiples of whole numbers and use them to solve problems

Maths ACSMPI 18 Pose questions and collect categorical or numerical data by observation or survey

Maths ACSMPI 19 Construct displays, including column graphs, dot plots and tables, appropriate for data type, with and without the use of digital technologies

Sustainability OI.6, OI.8, OI.9 All actions for sustainability require us to evaluate past practices and make balanced judgements based on projected future economic, social and environmental impacts

You will need

- A bucket or container for food waste
- Kitchen scales
- If students are undertaking this exercise at home, each student should find a container for each household, such as an ice-cream container or 2 litre container

Method

Investigate how much food waste is generated by the class from lunch at school one day. If this is to be conducted, it must be in a lesson after lunch. Do not let the children know about this in the day/s leading up to this, or it may influence what is brought to school. Just before lunch time, organise that the children in your class all sit together to eat lunch, then bring all waste derived from lunch to a given area, and put it in your designated container.

Based on what is collected, develop waste categories and record the numbers of items in each category, and the weight of each food type.



How much of it is food waste? How much is food packaging?

Note: some food waste, such as fruit peel/skins and apple cores are unavoidable, but some food waste is avoidable.

Graph your results, being the weight and main types of food waste.



Calculate how much food this equates to in one year for the class/for your school if every class wastes the same amount of food. There are 283 schools in Tasmania. So, how much food is wasted by children in schools around Tasmania every day/week/year, on average (considering there are small and large schools)?

Alternatively, or also, ask the children to source a container for the kitchen bench at home, in which all the food waste for the week is placed. Ask the child/ren to talk to all family members, instructing them to co-operate in collecting food waste for a week, including breakfast and lunch/preparation scraps. After dinner each night, the student could weigh and graph each type of food waste (e.g. *vegetables, bread, meat*) then empty the container as they normally would. Find out if the waste was due to be composted at home, given to chickens, put in a council Food Organics and Garden Organics (FOGO) collection bin, or whether it was destined for landfill.

Back at school, students could find out how many households there are in Tasmania and Australia, therefore how much food waste might be derived from homes, per year.

Class Discussion

Ask the students about their experience of collecting and weighing and recording food waste from school and/or home. Did the students note that there were probably some food wastes that were missed (e.g. *when someone throws out food waste at school or work?*)

From previous lessons, discuss the things that are 'lost' if we waste food (e.g. *we are disregarding the effort and environmental impact of growing, harvesting, processing and transporting that food, using water, land and energy*). Ask the students to describe what happens to food waste if it is buried in landfill (e.g. *food waste in landfills encourages pests such as silver gulls and creates odour for nearby residents, also methane is generated, which is a powerful greenhouse gas, contributing to climate change*).

Watch The Story of Food at <https://www.youtube.com/watch?v=PzGSHTP-U20>

If there is time, ask the students to develop fliers or posters to encourage people to generate less food waste and/or compost the food waste that is generated, either at school or at home via the FOGO bin. The students could then write an article for the school magazine regarding what they have learnt about food waste.

At one Australian school, staff were concerned that students were wasting a lot of food – they found uneaten apples in the bins and other uneaten portions of school lunches. They interviewed children and found that the kids were so excited to play at lunchtime, they short-changed their eating time so that they could play instead. In response, the school changed the school routine so that the children played and THEN had lunch. Teachers found that children were more attentive after lunch than before – having enough food to get them through until the end of the day.

