CITY OF
Port Adelaide Enfield

FOOD SCRAPS to compost

Lesson 4: Food decomposition and contaminants

Aim: To understand why certain items cannot be placed into the green organics bin for composting.

Learning areas: Science, Geography, English

Background: The green organics bin, provided by Council, enables residents to collect all green waste and food scraps for composting. Composting organic material results in the production of nutrient-rich compost, which can be placed on gardens and used on farms to grow happy, healthy plants. The alternative is sending organic materials to landfill, which is wasteful and results in these valuable resources being lost. One of the issues faced with regards to commercial composting via the green organics bin is 'contamination'.

Contamination is caused when people place inorganic things into their green organics bin. Inorganic simply means that it did not live, grow or come from something living or growing. Inorganic items, such as metal and plastic do not break down into compost. Contaminants in the green organics bin must be removed by machinery or by hand, complicating the overall composting process. If contaminants are not removed, they remain in the final compost product, which is undesirable for the consumer.

Lesson steps

1. Discuss the terms 'compostable' and 'contaminant'. Ask the students to discuss what they think each means, and what it might mean with regards to organic or inorganic. On the board, make a list of 10 compostable items and 10 contaminants. Students to complete the **'Compostable or contaminant?'** activity sheet.
2. Discuss the issues that various contaminants can cause in the composting process.
3. Students to design an experiment to investigate why certain items or 'contaminants' cannot be placed into the green organics bin. Students to undertake this experiment by conducting online research into setting up their own compost, such as a 'compost in a bottle' to provide support on how to design the experiment. In using these examples, remember to add some common contaminants, such as seed tags, plastic, metal, fabric, etc.
4. Ask students to make some predictions. Which items will break down? Which items will not break down? Will some items break down faster than others?
5. Students to record their observations over several weeks.
6. After a number of weeks, ask students to compare their results with their predictions. Were their predictions accurate?
7. Students to prepare a report detailing their findings and use the findings to prepare some education pieces for other students and parents/caregivers. These could include a newsletter article or advertisement.