

# Lesson Plan 2 - Composting



## Objective

To teach children about the biological processes involved in the decomposition of materials and how these differ

## Activity

Setting up a trap for larger beasts in the garden. There are many larger minibeasts living amongst the leaf litter, many of these also find their way into compost bins and feed on the minibeasts. One way of seeing these larger beasts is to set up a pitfall trap

## Curriculum Links

### Curriculum Links Key Stage 1

#### Geography

Pupils should be taught to:

7b) Carry out fieldwork investigations outside the classroom

## PRACTICAL ACTIVITY

## Planning Required for Activity

### Apparatus Required

- Spade
- Plastic cup/flowerpot/bottom half of plastic bottle that was used in Lesson Plan 1
- Flat stone/piece of wood
- Piece of cheese/meat
- Jam jar
- Pencils
- Pens
- Paper
- Magnifying glasses

## Activity Procedure Day 1

1. To make the trap dig a small hole in the ground and put in a plastic cup or small flowerpot. The container should be buried up to the rim



2. Place a flat stone or piece of wood over the top of the pot, this should be raised up a bit to allow the creatures to gain access whilst protecting them from any rain
3. To tempt any minibeast into the trap you should bait the trap with some food. Try a piece of cheese or if that isn't having much success try a small piece of meat
4. Leave the trap overnight and check the next morning for any animals that may have fallen in during the night

## Activity Procedure Day 2

1. Empty the container into a jam jar then using a magnifying glass have a close look at them
2. Draw a picture of the minibeast you have chosen
3. Can you identify it? (use the mini-beast identification sheet)
4. Release the minibeasts back to the wild when you have finished with them



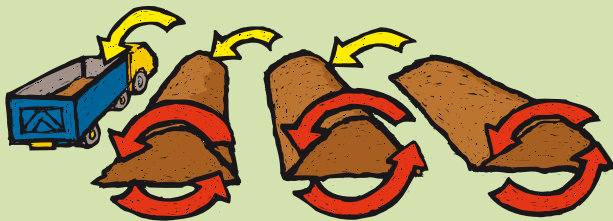
## Supporting Information

Now you have seen most of the minibeasts that are found in a compost bin. How much of your waste at home do you think could be composted? One quarter of your waste can be composted because it is made up of food scraps and garden waste

When organic materials are not composted they end up in landfill sites. In landfill sites organic materials break down to give off a gas called methane which is a greenhouse gas. Greenhouse gases are responsible for global warming. In the past there have been cases where the methane from a landfill site has travelled through cracks in the rock surrounding the site and got into peoples' houses. Methane is an inflammable gas, which means it can catch fire. Problems associated with methane migration have been eliminated now through extensive site

inspections, the use of liners in landfill sites and methane collection systems.

The breakdown of organic matter in landfills also creates a liquid called leachate. If the leachate escapes from the landfill site it travels down through the rock until it finds water. The water we drink is often pumped out the ground, so we could be drinking contaminated water if the landfill site is not looked after properly or leaks are not detected. This is why landfill sites are carefully designed with leachate collection systems and are frequently monitored to ensure that these problems do not occur (See Landfill Disposal sheet).



Many councils now collect garden waste separately from the normal waste. Garden waste collected at the Recycling and Household Waste sites and by some district councils is taken to one of two centralised composting sites at Lount and Kibworth. The garden waste is shredded and piled up in big pyramid shaped heaps, these are called windrows. At these sites there are sixteen windrows piled up side by side. The windrows are rolled over on a weekly basis to make sure they are aerated. The windrows look like they have smoke coming out of them. This is in fact steam caused by the moisture in the heap evaporating because of the heat created by the activity of the microbes. When the composting process is complete the material is put through a big machine called a screen. This acts like a sieve removing any large pieces of material that haven't fully broken down. The larger bits of material are returned to the first windrow so that they can continue to be broken down. The finer material that has been screened is bagged up and sold in garden centres and at Recycling and Household Waste Sites

**Tours of the Lount composting facility are available. There is also a composting classroom there for you to find out even more about composting and take a look at a wormery. If you are interested in visiting the site please contact Environ on Tel 0116 222 0238.**