

Compost in a bottle and wormery lesson. Lesson plan

This was created for a mixed age class of juniors and infants but can be adapted to different age groups.

Health and wellbeing Through contributing my views, time and talents, I play a part in bringing about positive change in my school and wider community. HWB 0-13a / HWB 1-13a / HWB 2-13a / HWB 3-13a / HWB 4-13a. I am learning to assess and manage risk, to protect myself and others, and to reduce the potential for harm when possible. HWB 0-16a / HWB 1-16a / HWB 2-16a / HWB 3-16a / HWB 4-16a. When preparing and cooking a variety of foods, I am becoming aware of the journeys which foods make from source to consumer, their seasonality, their local availability and their sustainability. HWB 1-35a / HWB 2-35a

Science I can use my knowledge of the interactions and energy flow between plants and animals in ecosystems, food chains and webs. I have contributed to the design or conservation of a wildlife area. SCN 2-02a Through carrying out practical activities and investigations, I can show how plants have benefited society. SCN 2-02b Second level skills. While conducting experiments, children are able to safely use simple tools, equipment, apparatus and procedures. They make observations, collect information and make measurements accurately using relevant devices and standard units and ICT where appropriate. They can select, with assistance, appropriate methods to record their findings

Geography I can discuss the environmental impact of human activity and suggest ways in which we can live in a more environmentally responsible way. SOC 2-08a

Resources

2/ Composting activity; 2 litre bottles, grass cuttings, leaves, cardboard, paper, food peelings, plant water spray, composting game.

3/ Wormery activity

Wormery box, worms, soil, cardboard, bucket of water to wet cardboard, bucket to collect cardboard, worm game.

Risk assessment.

The main risks come from handling the compost in a bottle and Wormery materials. Gloves can be worn or if children are older they can be reminded not to put their fingers in their mouths and to wash their hands after the session. Do not let children handle any fertilizer.

Learning Intention.

1/To understand the environmental impact of waste food and to be able to set up practical ways to reduce the issues it causes. 3/To practically set up both a wormery and compost box safely within the school grounds.

Introduction

Discuss using open questions what they think happens to the waste they don't eat if we don't put it in these bins and why this is an issue. Show you tube film about this or find one suitable https://www.youtube.com/watch?v=SXJc_ZZfyzE. Explain that in East Lothian the food waste gets recycled which is good but not having any to recycle in the first place is better. Show children the waste food journey here.

<https://www.youtube.com/watch?v=ARlyJz1Ea8A>

Main Making compost in a bottle

Explain that you can also recycle food and garden waste by making compost at home. Explain that when garden plants, vegetables and fruit break down (decompose) that they eventually turn into compost. Show them what compost is and explain that compost is very rich in minerals and nutrients which help the plants to grow when used in the garden. Show them this video to explain how compost is made.

<https://www.youtube.com/watch?v=cBkBwVFFEWw>.

Once they have been shown this explain that you are going to make a mini version of the process in a bottle and they can see how it will work over the weeks that follow. To know how to make compost in a bottle can teachers please watch <http://www.teachertube.com/video/how-to-make-compost-in-a-bottle-55471> (When I do it I do not add the fertilizer until the end and I do this myself so the children do not touch it and they also need to be warned not to touch the compost once the fertilizer is added.) Proceed to get the children to place the layers of food peelings, paper grass cuttings and cardboard and put soil between each layer. Explain that it is important to not put their fingers in their mouths whilst doing this. You also need to spray each layer with the plant sprayer with water in it. Explain the soil and the fertilizer contain the microbes and fungi which will break down the plants and peelings to make the compost. Tape the bottle top onto the bottle and mark where the contents comes to. The bottle should then be marked measured and photographed twice a week until it has turned into compost so children can see the changes. This can be put into a results table that the juniors prepare and fill in accurately. It is important to ensure children wash hands after the session.

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Main continued

Wormery session

Show the children this film <https://www.youtube.com/watch?v=7O40A-6Jmt4> to give them an intro on worms and the Wormery. Explain that worms can turn food waste into compost and you are going to prepare the Wormery so it is ready for the worms. Show the children the worms you are going to put in the Wormery. Get the children to shred up paper and cardboard. Then get them to wet the cardboard and squeeze it out so all the excess water comes out and then collect this in a bucket ready to be put into the Wormery. Place the cardboard and soil into the worm box and then place worms into the box. If time get the children to play the Wormery game which gets children to sort items which they think can be given to worms and items which can't and then discuss the results. This set of playing cards can be made by the teacher or can be made by older children who do research to find out what food can be used in a Wormery and then used in subsequent years to remind and educate children so they keep their knowledge and skills updated as to what things are suitable to use in a Wormery. Children need to wash hands after session.

Plenary

Review learning intention to see if the children feel they have achieved it.