

Building a worm farm... it's fun and easy!

This [Junior Landcare](#) guide is designed to provide teachers and students with an understanding of how to undertake Junior Landcare projects and the important role of earthworms in organic waste management and sustainability. As nature's recyclers, composting worms can be used to process large amounts of organic waste.

The guide has been developed by teachers in schools in response to an identified need and learning that is valued in the Australian Curriculum.

Green and organic waste management is an implicit part of studies in Design and Technologies, Geography, Health and Physical Education. The cross curriculum priority identified in the Australian Curriculum of sustainability, is a key component of any green waste management program. Effective planning includes cross-curricular approaches such as literacy and numeracy as general capabilities. These promote and develop the skills necessary for individuals to take action to achieve a sustainable future.

Girraween Primary School, a [Junior Landcare](#) Award winning school is located 40km southeast of Darwin in a rural area.

At Girraween, there is a worm farm where students breed worms to enhance the soil of the garden beds and where they also recycle food scraps.

An earthworm farm can be made from any large container. For example, an old bath tub makes an ideal home for earthworms.

To build a worm farm, you will need a styrofoam box with small holes in the bottom. This helps create good drainage and means the worms will not drown.



Steps to building a worm farm in a styrofoam box

You will need to:

- Use a layer of drainage rocks covered with flywire and then a layer of hessian to keep the worms from drowning. Add bedding material for the worms – this may be garden soil which can be mixed with organic matter such as decomposed compost, cow manure, sheep manure or horse manure.
- Moisten the bedding with a fine spray of water, as worms need moisture to survive.
- Add small pieces of food scraps in heaps on areas of the bedding surface.
- Add a layer of composting earthworms on top. The worms will congregate in the scraps or tunnel beneath the surface.

To maintain your worm farm, you will need to:

- Ensure that citrus peel, onions, garlic and artichokes are not given to the worms.
- Ensure that the bedding remains a neutral environment, around pH 7.
- Sprinkle the surface with lime or dolomite every two or three weeks, as this keeps the mixture sweet and palatable for the worms.
- Keep the worm farm in a cool well-protected shady place, which can be either inside or outside the classroom.





- Cover the worm farm, keeping it dark and well protected. Weed matting, hessian or old, clean carpet are useful as they help the farm to retain moisture and do not seal the surface, allowing water to pass into the soil. Using a cover also allows oxygen to get into the soil for the worms to breathe.
- Add more food scraps when the worms have partially eaten the available scraps.
- Observe how over time the scraps and bedding will be converted into rich organic substance called vermi-compost or worm castings.
- Harvest the vermi-compost or castings after approximately three months. Separate the worms from the vermi-compost and use it on the school garden. Worms are light sensitive, therefore use a desk lamp to help in the separating process.

Vermi-compost or worm castings can be packaged and sold as a great fundraiser too!

Have fun!

Adapted from: Kids for Landcare: Wormwatch, Education Department of South Australia, 1992, pp.16, 75 & 83.

Australian Curriculum Links

Year 4 Geography

Strand: Geographical knowledge and understandings

The sustainable management of waste from production and consumption [ACHGK025](#)

Year 4 Science

Strand: Science as a Human Endeavour

Science knowledge helps people to understand the effect of their actions [ACSHE062](#)

Year 3 and 4 Design and Technologies

Strand: Design and Technologies knowledge and understandings

Investigate the suitability of materials, systems, components, tools and equipment for a range of purposes [ACTDEK013](#)

Year 3 and 4 Health and Physical Education

Strand: Personal, social and community health: Contributing to active and healthy communities

Describe strategies to make the classroom and playground healthy, safe and active spaces [ACPPS040](#)

Source: Australian Curriculum, Assessment and Reporting Authority (ACARA), downloaded from the Australian Curriculum website on August 2014.

This Junior Landcare guide has been developed to support the Australian Curriculum. For further details, please visit www.australiancurriculum.edu.au

Cross Curriculum Priority: Sustainability

- OI:2 All life forms, including human life, are connected through ecosystems on which they depend for their wellbeing and survival.
- OI:3 Sustainable patterns of living rely on the interdependence of healthy social, economic and ecological systems.
- OI:5 World views are formed by experiences at personal, local, national and global levels, and are linked to individual and community actions for sustainability.
- OI:7 Actions for a more sustainable future reflect values of care, respect and responsibility, and require us to explore and understand environments.
- OI:9 Sustainable futures result from actions designed to preserve and/or restore the quality and uniqueness of environments.