



EDUCATION RESOURCE KIT

sustainableneighbourhoods.org.au/waste-to-art

Why get involved in *Waste To Art*?

Waste To Art aims to educate, inform and challenge the way we look at waste in our communities. Students and community members are encouraged to create artworks that are inspired by issues surrounding waste, or made from materials that would normally be discarded as waste. By exhibiting these artworks in public spaces, *Waste To Art* can help to raise awareness and knowledge about issues surrounding waste in society. The exhibition also promotes simple actions that can be implemented to reduce waste, and encourages participation in [Sustainable Neighbourhood groups](#).

Waste To Art projects provide a unique opportunity for students to:

- develop their creative art making skills;
- express their thoughts and feelings about the environment around them;
- develop enquiry based learning skills around environmental sustainability issues through addressing targeted questions;
- develop knowledge and understanding about environmental sustainability issues;
- develop critical and creative thinking skills while considering environmental issues;
- develop personal and social capability by becoming involved in displaying and discussing artworks and their environmental messages; and
- cultivate environmental ethics individually and amongst peers.

Waste To Art projects provide a unique opportunity for teachers to:

- engage their students in holistic, enquiry-based cross curricular art process which addresses curriculum outcomes;
- deliver on many quality teaching dimensions including intellectual quality, quality learning environment and significance, problematic knowledge, metalanguage, substantive communication, engagement, social support, student self-regulation, student direction, knowledge integration, connectedness and narrative;
- address the cross-curriculum priority of sustainability; and
- address the general capability of critical and creative thinking.

Why focus on waste?

Waste is a byproduct of modern living. Almost everything we do creates waste. Australia is one of the largest producers of waste in the world. Australia's growth in income and wealth has created a large increase in the disposal of goods no longer needed or wanted, with an associated increase in waste diversity, toxicity and complexity. Reducing waste involves changing everyday behaviours and considering personal needs and product life cycle before consumption.

Recent statistics from NSW alone include:

- the average NSW household generates about 23 kg of waste a week, consisting of about 5 kg of recyclables, 5 kg of food and garden organics and close to 13 kg of landfill waste;
- the average person in NSW generates nearly 10kg of waste a week.

Consider posing the following investigative tasks to your students to encourage them to explore the theme of sustainable and unsustainable lifestyles:

- investigate changes to the consumption, recycling and re-use of materials over time, and consider how this has impacted on waste generation. You may wish to focus on one or two items such as the different bottles used for milk and soft drinks. Describe the changes that have taken place in the manufacturing and recycling of these products. Develop a product life cycle for these containers comparing how the process may have looked 40 or 50 years ago compared with today's modern processes;
- think critically about how we are conditioned by messages of consumption (e.g. through mass advertising) and how we may counter that by reflecting on actual needs and the impacts of over-consumption, careful consumption choices, repairing and using products for as long as reasonable etc. Design an advertising message to change thought-patterns around consumption.
- consider how much waste an average Australian person generates each year. What does the waste consist of? Who are the highest and lowest consumers in our society? Students could interview grandparents, neighbours, friends about their shopping and waste habits.

What is a Product Life Cycle?

Everything we consume goes through a life cycle, and each stage of the life cycle has environmental impacts. By reducing the use of materials in every stage of the life cycle from materials extraction, manufacturing, distribution, usage and end-of-life management or disposal, we can help to minimise the environmental impact associated with the products we use. Linking waste education to product lifecycle provides a powerful message to students of all ages around purchasing behaviour, product use and re-use, disposal or recycling.

[The Story of Stuff](#) is an overview of product lifecycle and links to environmental management and conservation. Teachers could select a section of the Story of Stuff to show students followed by discussion and activity, we suggest the following approach:

- watch up to approximately 1:34 minutes of [The Story of Stuff](#) (available on YouTube). Then write labels for each of the steps described in the video. Choose a common item from the classroom such as paper and describe how it gets from the original product (trees) to the piece of paper they are writing on, and...
- next watch from 16:45 minutes (the section on disposal). Revise your product life cycle using the steps outlined in the video that include recycling. This will encourage your students to analyse the issue and apply it to their context.

When planning your *Waste To Art* projects, remember to always consider the end-of-life processes associated with artworks. How can the components of the artwork be reused, recycled, re-imagined? We encourage you to include a lifecycle approach in the planning phases of your project. This will be an important consideration in closing the loop on waste.

Materials used in *Waste To Art* projects have had their own production cycles prior to being used as a material for the art work. You could encourage students to investigate these production processes, and encourage them to select materials for their projects that can be readily dismantled or deconstructed and re-used or recycled further.

Demonstrating good environmental practice in the artwork

There are opportunities for environmental sustainability within every part of a *Waste To Art* project. When designing a project the sustainable use of resources and waste reduction practices can be incorporated. For example, brushes can be cleaned in a small bucket of water rather than under a running tap. Left over clay can be softened and used again and students could be encouraged to use recycled or discarded materials wherever possible. Showcase environmental sustainability by ensuring artworks can be dismantled and their components reused, recycled or composted at the end of the project. This requires some planning and can present an opportunity for more creative thinking. The following six ideas may help inspire students to produce innovative artworks which have minimal environmental impact.

1. Artworks could be made from fully compostable materials such as waste paper, card, or other natural fibres. Components of the artwork could be fastened together by sewing with natural yarns or cottons.
2. Artworks can be made from fully recyclable materials that can be dismantled and recycled at the end of the project.
3. Encourage students to consider how their artworks could be re-purposed or exhibited elsewhere rather than thrown away. If artworks must be disposed of to landfill, encourage participants to include a reflection statement in their entry as to the impact of this process.
4. Where possible encourage students to avoid the use of synthetic glues, welding or otherwise hard to undo methods of joining. Where glue is used, it should be used sparingly.
5. Encourage students to practice folded paper techniques to provide structure, using tying or weaving rather than glue.
6. To help students understand product life cycles, teachers could encourage students to research what raw materials are used in the manufacturing of common art materials such as acrylic paints, coloured pencils and other art materials.

Supporting teachers and schools

Where can I access local information and learning experiences?

- The [Lake Macquarie City Council Environment Team](#) can provide a wealth of local environmental information and educational resources. Lake Macquarie City Council also offers [Sustainable Schools Workshops](#), the [School Environment Awards](#), the [Landcare in Schools program](#), and facilitates [Recycling in Schools](#).
- The [Sustainable Neighbourhoods website](#) and the [Waste to Art Exhibition page](#), which include videos of volunteers and interviews with exhibiting artists.
- Environmental & Zoo Education Centres (EZEC) are located across NSW supporting Department of Education and Communities schools. The local [environmental education centres](#) are great sources of information and activities, and the EZEC network has also created virtual [resources for primary schools](#) and [secondary schools](#).
- [The Awaba Waste Management Facility](#) provides tours of their facility and educational talks about waste management for school groups.
- The NSW Government provides guidance, resources and expertise in environmental sustainability through the [Office of Environment and Heritage](#).

Teaching Resources and Lesson Plans

- The [Sustainable Schools NSW website](#) has some great teacher resources which focus on waste. These include units of work, lesson plans, student guided investigations and activities.
- The [NetWaste website](#) provides school education resources including Powerpoint presentations, comprehensive lesson plans with activity suggestions, and fact sheets aimed at primary school students.
- Access the [Department of Education's 'Waste as Art' teaching resources](#). These have been adapted from the original series of work produced by the Environmental Trust-funded Woollahra Municipal Council project. The resources include units of work which have been developed across three learning themes: Biodiversity ('*Precious Animals and Plants*'), Resources ('*Precious Resources*') and Water ('*Precious Water*'). Each of these resources aims to support teachers in further applying the educational aspects of *Waste To Art* projects, whilst enabling students to build their confidence as they submit their works.
 - [Biodiversity \(Precious Plants & Animals\)](#)
Biodiversity can be described as the variety of plants and animals (species) and the places

they live (ecosystems). The biodiversity theme encourages students to develop an artwork that represents some aspect of conserving biodiversity. For example, drawing attention to the problems our plants and animals face, highlighting the beauty and complexity of our plants and animals, or providing hope and imagination in the way we could support and enhance the biodiversity and ecosystems around us.

o [Resources \(Precious Resources\)](#)

Sustainable production and consumption calls for the effective and efficient use of resources to minimise or eliminate waste for all people now and into the future. The sustainable production and consumption topic encourages students to develop an artwork that represents any aspect of production and consumption in our society. For example, by drawing attention to wastefulness or over consumption, or providing hope and imagination in the way we could reuse and conserve our precious resources better.

o [Water \(Precious Water\)](#)

Total water cycle management recognises the finite limits to an area's water resources and is a holistic approach to balancing the competing demands placed on water resources. The key principles include promoting water conservation, preventing pollution, protecting aquatic and floodplain biodiversity and providing and maintaining environmental flows. This resource encourages students to develop an artwork that represents some aspect of the water cycle, or how humans interact with, and affect, this precious resource – from local creeks, to vast oceans.

These three units of work are each a six-part teaching and learning resource that offer lesson ideas and support to teachers. All units are aligned with [NSW Education Standards Authority \(NESA\)](#) and the [NSW Creative Arts Syllabus K-6](#). Resources have been designed to support schools in combining visual arts with environmental sustainability education, in addition to guiding schools and the wider community to collaborate in *Waste To Art* projects. Teachers may however, wish to develop their own teaching units around environmental issues that are of interest to their specific community such as land clearing, erosion, salinity, or eutrophication. In this case, the supporting resources may be useful in providing examples on which to base additional units of work.

Each lesson within the resources has been designed to provide flexibility to suit class needs. The aim is to encourage creative, individual responses. Each activity can be varied to suit individual classes; however, it may be helpful for activities to be worked through in the order they are presented in the resource. Whilst these resources were originally written for Stages 2 and 3, suggestions of adaptation ideas for younger or older students are provided, and extension activities are suggested for further development of the units. Each lesson also contains a list of related key vocabulary, definitions of which can be found in the glossary at the end of the resource.

Providing inspiration from the art world

Waste To Art encourages creativity and originality, and the best way to inspire this within students is to provide examples of what other artists are creating using recycled waste materials.

Some contemporary Australian artists that could be used as stimulus to provide students with inspiration and ideas for their own artworks. are:

- **Rox De Luca**
When artist Rox De Luca finds plastic objects on the beach, she picks them up, takes them home to clean and sort and turns them into beautiful art works that spark conversations about plastics in our oceans. roxdeluca.com
- **Jane Gillings**
The Avoca Beach artist uses discarded plastics and objects salvaged from rubbish heaps. jane.gillings.com
artsandculture.google.com/asset/thrown-jane-gillings/4QHcBdtx1_gg-A
- **John Dahlsen**
John Dahlsen is perhaps Australia's best-known environmental artist. He won the [Wynne Prize in 2000 for his Thong Totems](#), made from discarded rubber thongs. He lives in Byron Bay, where he scours the beaches for plastic fragments, bags, discarded rope and other materials for his creations. His most recent works, the Gyre series, use microplastics to draw attention to the fact that on average, humans ingest about 2000 tiny pieces of plastic each week. johndahlsen.com
- **Matt Aberline and Maurice Goldberg**
These collaborating artists tackle issues of waste, pollution and climate change. Their [Now+](#) initiative is a large-scale community art project that tackles waste, pollution and climate change. Bubble wrap, biscuit wrappers, pasta and salad packets are turned into beautiful artworks. goldbergaberlinestudio.com/now-plastic

Some contemporary international artists working with recycled materials and dealing with concepts of waste:

- **Vik Muniz**
Brazilian artist well known for producing portraits of the workers at Jardim Gramacho, the world's largest landfill on the outskirts of Rio de Janeiro. The men and women working there sift through garbage for a living. Muniz also made a renowned documentary entitled *Wasteland* about these people and the artworks they made together. wastelandmovie.com/vik-muniz
- **Tim Noble and Sue Webster**
Internationally acclaimed British artists who collaborate as a duo. Well known for their garbage installations which use light to project a shadow image on the gallery wall. artworksforchange.org/portfolio/tim-noble-and-sue-webster
- **Guerra de la Paz**
A group of Cuban artists who live and work in the USA. They use discarded textiles to create artworks which focus on the waste and issues related to "fast fashion". artworksforchange.org/portfolio/guerra-de-la-paz
- **Nick Gentry**
As part of a generation that grew up with floppy disks, VHS tapes, polaroids and cassettes, he is inspired by obsolete technology and the impact of internet culture. The artist draws on recycled technological relics as the grounds for his portraits. nickgentry.com

- **Khalil Chishtee**

This Pakistani artist creates evocative sculptures of the human figure using shredded, bunched, bundled and knotted plastic bags.

thenews.com.pk/magazine/you/583438-in-conversation-with-khalil-chishtee

Learning across the curriculum with *Waste To Art* projects

[General capabilities](#) are a key dimension of the Australian Curriculum. They encompass knowledge, skills, behaviors and dispositions that, together with curriculum content in each learning area and the cross-curriculum priorities, will assist students to live and work successfully in the twenty-first century. Some of the general capabilities can be embedded into *Waste To Art* projects.

Literacy

Waste To Art projects provide opportunities for developing skills in speaking and listening (to fellow students, the school community, media, the public), reading and writing (online articles, creating artist statements), and viewing and representing (creating and describing art projects). For example:

- expressing views through different media, writing artists statements and
- presenting orally about artworks at exhibition openings.

Numeracy

Waste To Art projects can provide opportunities for students to develop their skills in numeracy by identifying and using numerical, measurement, spatial, graphical and statistical concepts and skills. For example:

- collecting, classifying and analysing waste and recycling data and
- interpreting and presenting statistics from surveys completed at *Waste To Art* displays and exhibitions.

Information and communication technology (ICT)

Students have the opportunity to become competent, discriminating and creative users of technology as they learn to use ICT effectively and appropriately when investigating, creating and communicating *Waste To Art* ideas and information. For example:

- researching waste generation in their local area;
- simulating an investigation using information technology and
- developing an online forum for exchange of ideas.

Critical and creative thinking

Students can develop critical and creative thinking by seeking sustainable outcomes when researching, developing and ultimately disposing of their artworks. They learn to evaluate knowledge about waste and

resource efficiency, assess ideas and possibilities and use reason and imagination to direct their thinking for better environmental outcomes. For example:

- researching whole of life impacts of products;
- determining how to construct artworks for better end-of-life recycling or repurposing;
- retrieving, analysing, interpreting and evaluating information about raw materials and waste materials from a variety of sources and
- organising and planning a project.

Personal and social capability

Students develop personal and social capability as they learn to understand and manage themselves, their relationships, lives, work and learning more effectively. Through taking part in *Waste To Art* project planning, implementation and evaluation tasks students learn to identify and express their own opinions, beliefs and responses and to interact confidently and appropriately in a range of social contexts. For example:

- working cooperatively with others in developing artworks or organising art exhibitions;
- taking individual and group responsibility for aspects of the project and
- communicating with a range of stakeholders and making decisions around best practice approaches to project management.

Ethical understanding

Creating artworks that reflect environmental and social or human rights messages and issues provides a positive tool for strengthening a student's capacity for ethical understanding and commitment to ethical behaviour. For example:

- researching the lifecycle of clothing manufacture and its impacts on the environment and on workers as part of designing a *Waste To Art* clothing piece.

Intercultural understanding

Participating in *Waste To Art* initiatives provides students with opportunities to deal with cultural diversity in a positive and informed manner, showing awareness, understanding and acceptance as they participate in local or regional projects and research different cultural attitudes and perspectives on waste and the environment. For example:

- students actively engage migrant or indigenous communities in their *Waste To Art* projects and
- students showcase art projects in aged care facilities and communicate with the aged on their aims, objectives and outcomes of the project.

Sustainability is a Cross-Curriculum Priority

[Cross-curriculum priorities](#) provide students with the tools and language to engage with and better understand their world at a range of levels. The priorities provide dimensions which will enrich the curriculum through development of considered and focused content that fits naturally within learning areas. Incorporation of the priorities will encourage conversations between learning areas and between

students, teachers and the wider community. *Waste To Art* provides an opportunity to incorporate the cross-curriculum priority sustainability.

Waste To Art projects can deepen our understanding of sustainability and the challenge waste presents to a sustainable future. Waste is an issue that has personal, local, national and global sustainability contexts and can be addressed by a range of years and learning areas. The issue of waste has intergenerational impacts as which students could explore. Students can:

- research the items of waste they are using to construct their artworks;
- identify, research and analyse why material in the artwork may represents a risk to the environment or human health;
- state the case for why a more sustainable and environmentally sensitive material could be used in place of this material in our everyday lives;
- research options and processes for how this material should be returned to a waste stream for recycling at the end of its life as an artwork and
- investigate materials used in the past that have now become significant waste issues for current and future generations.

This document has been compiled using information from the NSW Department of Education's ['A guide to implementing waste as art and environmental art projects in schools'](#) and the websites listed throughout the body of this document. The fair use of this resource is limited to educational purposes in schools only, and therefore not subject to copyright.