

ecologic

CREATING A SUSTAINABLE FUTURE



Design and technology theme trail (recommended for years 7–10)

This theme trail accompanies the teachers notes for the exhibition *EcoLogic: creating a sustainable future*. The Environmental Education Policy for Schools 2001 cites understanding of the principles of ecologically sustainable development as a key aim for environmental education. *EcoLogic* promotes the understanding of sustainability to all ages.

The theme trail selects a series of ‘sustainable stops’ likely to be of interest and relevance to your students.

Ecologically sustainable development is a key concept for design and technology students impacting on their study of many contexts, domains and processes.

Tips for the group leader

(a teacher, accompanying parent or student)

1. Know your group.
2. Study the map of the exhibition and the scope of each stop.
3. **To read** is for the group leader to read and familiarise themselves with the topic and scope of each stop.
4. **To say or do** gives the group leader ways to introduce the topic to the group. Explain the focus, activity or discussion point at each
5. stop. Remember theme trails are guides not rules. If the students are restless or no longer interested move to the next stop.
5. At each stop give your group time to look around the exhibition, listen to the audiovisual(s) and/or play the interactive(s) as well as discuss the question.
6. Rest, debrief and allow time for each student to go back to his or her own exhibition highlight.
7. Enjoy! The Powerhouse is a place of inquiry. Be an adventurer with your group.

Design and Technology students

Statement	Ethical dilemma	Looking at the problem			Your decision
		Yes	No	Maybe	
'We can't have a viable society or economy without a healthy environment.'	This could be accomplished under a totalitarian regime. Would this strategy ensure a sustainable future?				
'Right now we are using up natural resources faster and faster.'	We need to use new technologies to make energy before non-renewable resources run out. Will this strategy ensure a sustainable future?				



Stop 1

■ To read

There are many definitions of sustainability. The introduction describes the approach to sustainability in this exhibition.

■ To say or do

Review two ethical dilemmas based on strategies that could be used to support a framework for a sustainable future. Use the chart (*above*) as a guide.



Stop 2

■ To read

We live in a global marketplace so our choices affect the global environment. Other countries use up their resources to meet our demands.

■ To say or do

Look at the picture of the child in the highchair. Put various elements in the picture into different domains – personal, commercial, industrial, global. Which domain is the primary focus of this scene?



Stop 3

■ To read

Most scientists agree that humans are changing global climates by burning fossil fuels to make

energy. Most of the world's electricity comes from burning coal. This is significant for Australia as we are the biggest exporter of coal in the world.

■ To say or do

Check out the range of non-renewable energy sources being developed in Australia. What might prevent them being taken up on a large scale?



Stop 4

■ To read

Like living things, material products have a life cycle. Their 'life' includes design, material acquisition, manufacture and transport, marketing and distribution, use and maintenance, recycling and waste disposal. Life cycle assessment offers designers a tool for reviewing the environmental consequence of their product. This display looks at the range of materials used in making a packet of chips.

■ To say or do

How many different materials are used? Where do the ingredients come from? Conduct a 'quickie' life cycle analysis on an item of clothing, tool or accessory you are carrying. Tip: consider the energy, human impact and waste production in each stage of its life.



Stop 5

■ To read

The alternative architecture display shows a variety of housing alternatives – from renovating an existing dwelling to building a new single or multi-unit dwelling.

■ To say or do

Look at the different housing options presented. Of these housing alternatives, which would you choose if you could? What would be some of the factors that would limit your choice?



Stop 6

■ To read

Design for the environment aims to limit the damage to ecosystems and human health while maximising the functionality and appeal of a product or system.

■ To say or do

The Rethinking design display uses a lot of ‘re’ words to encourage people to think sustainably. Think of at least four ‘re’ words and how they might apply to the Replay wind up radio; the Hebel brick and the fabrics in the touch panel.



Stop 7

To read

Cars remain the most popular form of transport in cities. In burning fossil fuel, cars emit large amounts of CO₂. They are less polluting than they used to be but there are more of them. The Honda Insight was the first hybrid petrol-electric vehicle to be sold in Australia.

To do

Why do you think cars remain the most popular form of transport? Are alternative vehicles the only solution to traffic congestion? What do you think influences people’s decisions to purchase alternative vehicles like the Honda Insight or the Toyota Prius? Consider factors such as petrol prices, city planning, availability, image and style.



Stop 8

■ To read

One way of understanding the design and technology of a particular product or system is to research its history.

■ To say or do

This section of the exhibition, called ‘Nurturing the land’, has numerous examples of historical research. Select two sources of primary information and one source of secondary information about Australia’s post-invasion treatment of its land.



Stop 9

■ To read

The Marine Stewardship Council awards its certification to fisheries that demonstrate a sustainable and cooperative management approach. The western rock lobster fishery in Western Australia was the first in the world to meet the standards set by MSC.

■ To say or do

Marketing is the planning, pricing, promotion, distribution and sale of goods and services. How would you market and promote the western rock lobster, given its MSC seal of approval? Can you think up an advertising slogan for the business?



Stop 10

■ To read

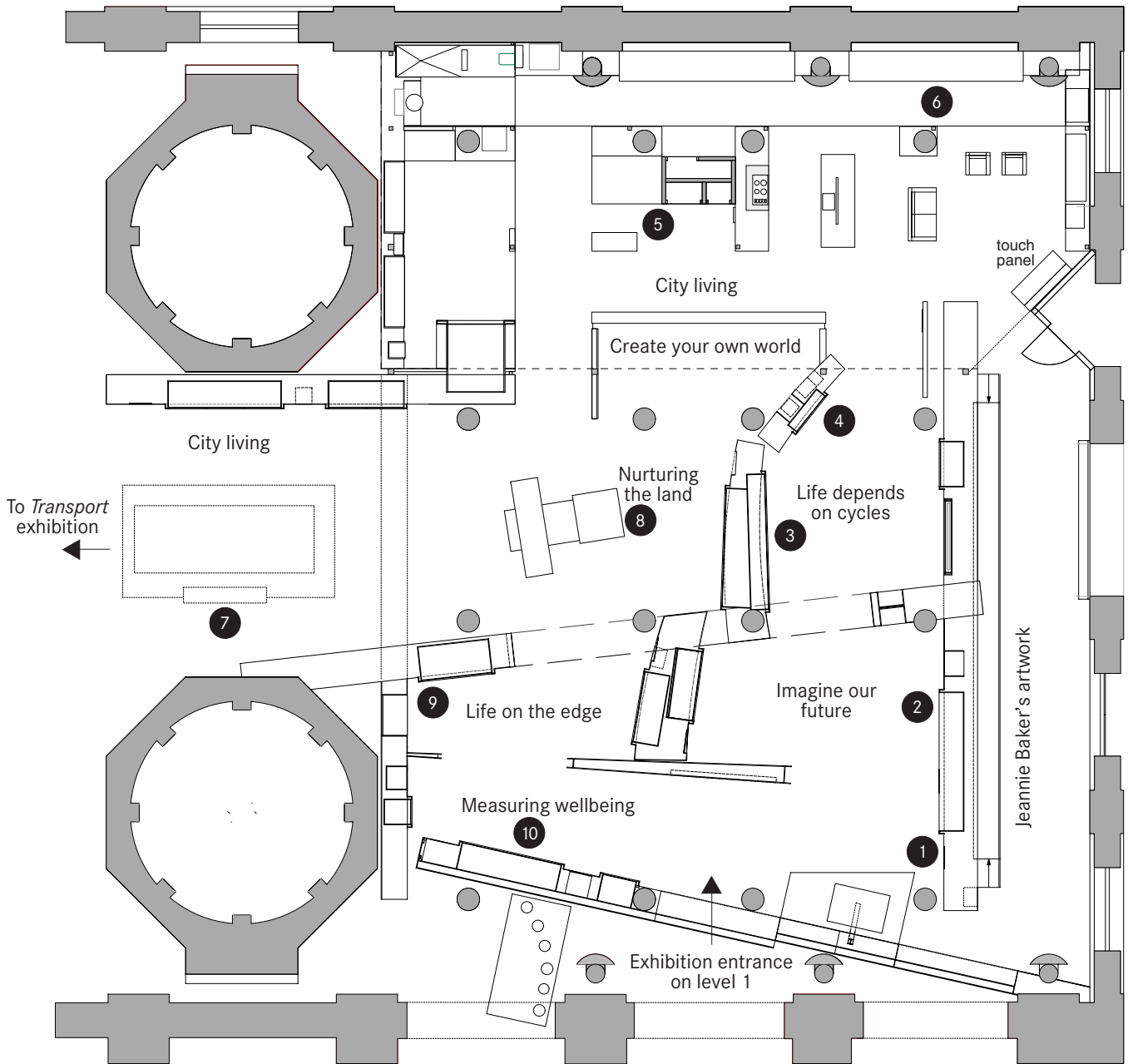
This section shows examples of environmental protest as one form of change.

■ To say or do

Create a mind map or concept map as you view this section. In the middle of the map write ‘social change’ and from these words make your own notes based on the information given. Include any unanswered questions you would need to follow up to get a picture of the changes society would need to make for a sustainable world.

ecologic

CREATING A SUSTAINABLE FUTURE



Sustainable stops for Design and Technology students 1-10.

For more information go to www.powerhousemuseum.com/exhibitions/ecologic.asp

Photographs © Powerhouse Museum 2001

© 2001 Trustees of the Museum of Applied Arts and Sciences. This publication is copyright. Apart from fair dealing for the purposes of research, study, criticism or review, or as otherwise permitted under the Copyright Act, no part may be reproduced by any process without written permission.