

FOCUS CONCEPTS



CURRICULUM INTENT

The Earth Charter

- Principle 4: Make good choices for now and the future
- Principle 8: Teach others how to keep our Earth clean and healthy
- Principle 14: Actively learn for a better world

Australian Curriculum - Cross-Curriculum Priorities

- **Sustainability**
 - Designing action for sustainability requires an evaluation of past practices, the assessment of scientific and technological developments, and balanced judgments based on projected future economic, social and environmental impacts.
 - Sustainable futures result from actions designed to preserve and/or restore the quality and uniqueness of environments.
- **Aboriginal and Torres Strait Islander Histories and Cultures**
 - Australia acknowledges the significant contributions of Aboriginal and Torres Strait Islander people locally and globally.
- **Asia and Australia's Engagement with Asia**
 - The peoples and countries of Asia have contributed and continue to contribute to world history and human endeavour.

Australian Curriculum – General Capabilities

- Literacy
- Numeracy
- ICT Capability
- Critical and Creative Thinking
- Personal and Social Capability
- Ethical Behaviour
- Intercultural Understanding

REPERTOIRES OF PRACTICE

Australian Sustainability Curriculum Framework

	FOUNDATION LEVEL - YEAR 2	YEAR 3 -YEAR 7
WORLD VIEWING	<p>Perceptions, feelings and values: Reflecting on 'why we should do this' in regard to sustainability issues and actions in particular:</p> <ul style="list-style-type: none"> • needs, wants and values of self, family, other people and cultures • needs of other species and of natural systems 	<p>Beliefs, ethics and actions: Negotiating common ground for collaboration on a project by recognizing and accommodating differences of belief and values</p>
SYSTEMS THINKING	<p>Identify intended and unintended consequences: Identify short-term, intended consequences</p>	<p>Identify intended and unintended consequences: Given a challenge, use understanding of system structure to identify and explain possible actions</p>
FUTURES AND DESIGN THINKING	<p>Creating solutions: Anticipate the impact of their designs and actions on people and environments in the immediate future</p>	<p>Creating solutions: Implement systematic design processes that respond to people's needs and wants and recognise potential impacts on people and environments into the future</p>
	<p>Creating solutions: Generate ideas for products and environments that respond to people's needs and reflect a view of their personal future</p>	<p>Creating solutions: Generate ideas for strategies, environments and products that reflect a preferred future in relation to emerging social and environmental issues</p>
	<p>Envisioning futures: Envision future events and places from a projection of personal experience by making drawings of what might be imagined for the future and explain the need that would be met by key features</p>	<p>Envisioning futures: Envision preferred futures that respond to emerging social and environmental issues</p>

SUGGESTED TEACHING AND LEARNING SEQUENCE

INQUIRY PHASE 1 – ENGAGE – MAKING A CASE FOR CHANGE

LEARNING OBJECTIVES

- Discuss ideas and perspectives for preferred futures
- Identify opportunities for sustainable design
- Investigate processes and systems used in design thinking

INQUIRY QUESTIONS	SUGGESTED LEARNING AND TEACHING SEQUENCE
<ul style="list-style-type: none"> • When is the future? • What might the future look like? • How do we feel and what do we think about the future? • What kind of future do we want? • What's the real meaning of 'clean and green'? • Will our generation be able to create a 'clean and green' future? • How many 'clean and green' inventions can we describe? • What processes can be used to change ideas into designs? • How do people use technology to design new ideas and systems? 	<ol style="list-style-type: none"> 1. BRAINSTORM what students already know about the future 2. Use the mind map of the Focus Concepts to make a WORD WALL with images, descriptions and explanations 3. Do a SURVEY to find out how students feel about the future 4. Visit 'Future we want' and discuss preferred futures 5. Create positive and negative images of the future – give reasons for both perspectives 6. DEBATE both sides of the topic: <i>There is hope for the future...</i> 7. View the 11th hour videoclip and identify the opportunities for designing sustainable technologies 8. Visit 'Design Thinking for Educators' and develop a FLOWCHART for the design process: <ul style="list-style-type: none"> ○ Discovery ○ Interpretation ○ Ideation ○ Experimentation ○ Evolution 9. Prepare a QUESTION BANK of issues that require further investigation

INQUIRY PHASE 2 – EXPLORE – DEFINING THE SCOPE FOR ACTION

Learning Objectives

- Develop an appreciation for the wisdom of past generations
- Explain the concept of intergenerational equity
- Investigate the contribution of nature and natural processes to sustainable design
- Give reasons why design ideas need to incorporate renewable resources
- Generate ideas for future employment opportunities in sustainability

INQUIRY QUESTIONS	SUGGESTED LEARNING AND TEACHING SEQUENCE
<ul style="list-style-type: none"> • Who are our Elders? • What messages are our Elders trying to pass on to the next generation? • Do you agree or disagree with the Elders' wisdom? • What wisdom have you learned from your ancestors? • What is biomimicry? • How do scientists collect data from nature? • What sorts of questions do scientists ask to help them to focus their experiments and designs? • Why do we need to use renewable resources when creating new designs? • What kinds of jobs will there be in the future? • What sorts of skills will you need to have in order to be able to do different jobs? 	<ol style="list-style-type: none"> 1. View the videoclip “Wisdom of the Elders – The Time is Now” and record evidence of elders' actions to take care of the planet for future generations. 2. View the videoclips on Biomimicry and create models, images and diagrams to show how we can use ideas from nature to develop sustainable designs, systems and processes. Use the class BLOG to publish students' designs. 3. Discuss reasons why new concepts for design and technology need to use renewable resources. View the videoclip EU Sustainable Energy Week and describe the ways that renewable energy is being used in housing design. Make a list of steps to take to switch to renewable energy and publish these on the class BLOG. 4. Share ideas for future employment opportunities and explain what sorts of skills and responsibilities will be involved in green jobs in the future. Students illustrate their dream job. Prepare a CURRICULUM VITAE based on the skills of the students in the class to show how they are suited for the world of tomorrow. Use the class BLOG to 'advertise' the skills of the students



Green Lane Diary Teaching Notes Week 10 - Destination Clean and Green



INQUIRY PHASE 3 – EXPLAIN – DEVELOPING THE PROPOSAL FOR ACTION

Learning Objectives

- Identify characteristics of sustainable cities
- Represent scenarios of sustainable cities
- Generate ideas for action and/or sustainable design
- Connect with people in the community who can provide feedback and support

INQUIRY QUESTIONS	SUGGESTED LEARNING AND TEACHING SEQUENCE
<ul style="list-style-type: none">• What is a sustainable city?• What needs to change in our city to make it more sustainable?• How could we be inspired by the story of Green Lane Hero Zaid and his sustainable island?• Which issues should we choose as the focus for our action plan?• How can we use the wisdom of the elders to help us to decide what actions we can take to make a difference?• What ideas can we use from nature to help inspire our designs?• Who can support us in our action plan?	<ol style="list-style-type: none">1. Visit the UN Cities of Today, Cities of Tomorrow website to identify the characteristics of a sustainable city. Discuss whether your city meets the criteria and identify possible areas for improvement.2. Discuss the model of a sustainable island as designed by Green Lane Hero Zaid and consider what elements could be incorporated into action in your local community3. Reflect on learnings developed as a result of researching the Wisdom of the Elders and make links between traditional wisdom and a clean, green design approach.4. Reflect on learnings developed as a result of researching the field of biomimicry and make links to a clean, green design approach.5. Invite a representative from a local community organisation to inspire your class with possible ideas for action6. Using the Green Lane Diary project plan and scrapbook, brainstorm, draw and record ideas for actions7. Weigh up the pros and cons of different courses of action8. Choose the most effective action9. Identify the person in the school who has the authority to approve the action and prepare a detailed proposal for presentation



Green Lane Diary Teaching Notes Week 10 - Destination Clean and Green



INQUIRY PHASE 4 – ELABORATE – IMPLEMENTING THE PROPOSAL

Learning Objectives

- Develop an action plan
- Prepare equipment and devise roles and responsibilities
- Implement the action plan

INQUIRY QUESTIONS	SUGGESTED LEARNING AND TEACHING SEQUENCE
<ul style="list-style-type: none"> • What equipment will we need to take action? • What steps do we need to take? • What jobs will we need to do? • Who will be responsible for each of the jobs we need to do? • What is our timeline? • How can we monitor our progress? 	<ul style="list-style-type: none"> • Using the Green Lane Diary project plan and scrapbook, make a list of the equipment needed to fulfill the action • Identify the steps required and negotiate roles, responsibilities and timelines • Implement the action • Discuss responsibilities for each step of the action plan • Negotiate with the students to form collaborative groups who will be responsible each of the roles • Discuss the importance of gathering evidence to determine the effectiveness of the action – eg: photos, videos, data, feedback

INQUIRY PHASE 5 – EVALUATE – EVALUATING AND REFLECTING

Learning Objectives

- Collect data on the impact of the action plan
- Reflect on the results of the action plan
- Discuss strategies for improving results
- Establish a regular schedule for using the Green Lane Diary Scrapbook

INQUIRY QUESTIONS	SUGGESTED LEARNING AND TEACHING SEQUENCE
<ul style="list-style-type: none"> • What happened as a result of our actions? • How can we find out about the success of our actions? • Who can we tell about our successes? • What else can we do to make a difference? • Which Earth Charter values did we act upon? • Who can provide us with feedback about the success of our actions? • What evidence do we have to prove our actions were successful? • What have we learned? How can we improve our results? 	<ul style="list-style-type: none"> • Discuss the results and impacts of the students actions with leading questions about what they observed, what they learned and how they might improve their results in future • Make links with the class version of the Earth Charter • Record results, learnings and experiences in the Green Lane Diary • Identify people in the school community who can provide feedback on the students' actions • Use STIXY to evaluate the processes the students used to design and implement the action • Celebrate students' achievement and success • Discuss possible strategies for improving the success of the actions



TEACHING AND LEARNING RESOURCES

BOOKS

- *'The Tomorrow Book'* by Jackie French and illustrated by Sue de Gennaro
 - Teaching Resources – Part 1:
http://www.harpercollins.com/harperimages/ommooverride/tomorrow_book_teacher_notes.pdf
 - Teaching Resources – Part 2:
http://www.harpercollins.com/harperimages/ommooverride/The_Tomorrow_Book_TN.pdf
- *'The World That We Want'* by Kim Michelle Toft

DIGITAL LINKS

- Bubbl: <https://bubbl.us/>
- Design Thinking for Educators: <http://designthinkingforeducators.com/>
- Wallwisher: <http://wallwisher.com/>
- WordSift: <http://www.wordsift.com/>
- Global Education – Teacher resources to encourage a global perspective across the curriculum: <http://www.globaleducation.edu.au/>
- UN CyberSchoolBus – Cities of Today, Cities of Tomorrow: <http://www.un.org/cyberschoolbus/habitat/index.asp>
- Future We Want: <http://futurewewant.org/>
- Biomimicry: <http://biomimicry.net/inspiring/videos/>
- EU Sustainable Energy Week: <http://www.eusew.eu/?page=events&selEvent=90>
- YouTube
 - The Eleventh Hour Trailer: http://www.youtube.com/watch?v=ENcV5zeMILs&feature=youtube_gdata_player
 - The Wisdom of the Elders: <http://www.youtube.com/watch?v=P-v2-BtphmU&feature=related>