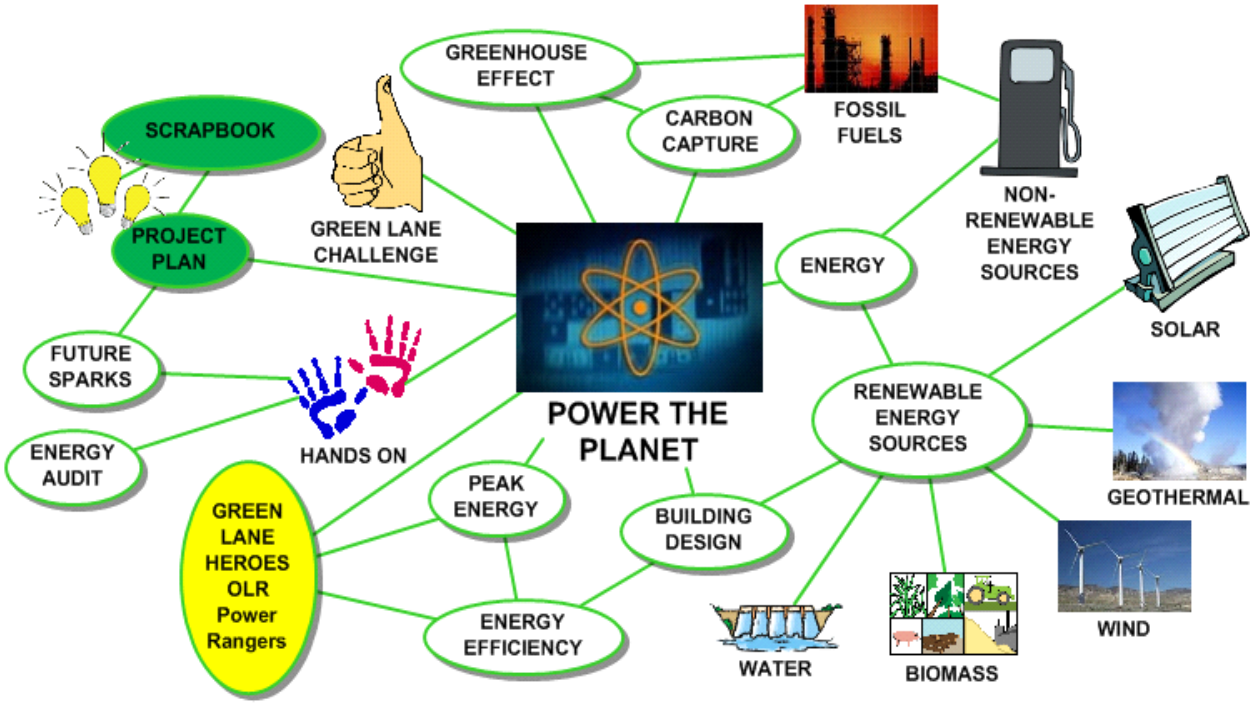
FOCUS CONCEPTS



CURRICULUM INTENT

The Earth Charter

- Principle 4 – Make good choices for the future
- Principle 7 – Walk lightly on our Earth and use only what we need
- Principle 8 – Teach others how to keep our Earth clean and healthy
- Principle 10 – Manage our resources to benefit everyone

Australian Curriculum - Cross-Curriculum Priorities

- **Sustainability**
  - World views are formed by experiences at personal, local, national and global levels, and are linked to individual and community actions for sustainability.
- **Asia and Australia's Engagement with Asia**
  - Interrelationships between humans and the diverse environments in Asia shape the region and have global implications.

Australian Curriculum – General Capabilities

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

REPERTOIRES OF PRACTICE

Australian Sustainability Curriculum Framework

	FOUNDATION LEVEL - YEAR 2	YEAR 3 -YEAR 7
WORLD VIEWING	**Beliefs, ethics and actions:** Describing and discussing the reasons for certain rules of behaviour or use of resources at home and school	**Beliefs, ethics and actions:** Explaining why a particular action is right or desirable with reference to sustainability
SYSTEMS THINKING	**Assessing probability, risk and benefit:** Discus ways of avoiding or reducing risk in relation to sustainability issues	**Assessing probability, risk and benefit:** Propose, evaluate and enact ways to minimize risk or mitigate its consequences
	Identify intended and unintended consequences: Give an example of how a specific action can affect what happens in the short term	**Identify intended and unintended consequences:** Given a challenge, use understanding of system structure to identify and explain possible actions
FUTURES AND DESIGN THINKING	**Creating solutions:** Generate ideas for processes that respond to people's needs and reflect a view of their personal future	**Creating solutions:** Use a systems approach to identify and analyse potential future impacts of actions on people and environments

SUGGESTED TEACHING AND LEARNING SEQUENCE

INQUIRY PHASE 1 – ENGAGE – MAKING A CASE FOR CHANGE

LEARNING OBJECTIVES

- Identify methods for using energy
- Explain the environmental impact of the greenhouse effect
- Make comparisons between renewable and non-renewable sources of energy

INQUIRY QUESTIONS	SUGGESTED LEARNING AND TEACHING SEQUENCE
• How do we use energy? • What is the difference between global warming and the greenhouse effect? • How might global warming impact on the environment in the future? • How can we reduce our carbon emissions? • What is your carbon footprint? • What's the difference between renewable and non-renewable sources of energy? • How can we live the Earth Charter by using only the resources we need?	1. Create a concept map of all the different ways we use energy. 2. Visit the **FutureSparks** website and conduct experiments to find out more about how we use energy 3. Do a SURVEY to find out what students already know about global warming and the greenhouse effect. Record their learnings on a global warming and greenhouse effect - before and after chart. 4. View the videoclips **'Global Warming 101'** and **'An Inconvenient Truth'** to identify the difference between global warming and the greenhouse effect 5. Revisit the global warming and greenhouse effect - before and after chart and update students' understandings 6. Visit the **CSIRO** website for more information on reducing greenhouse gas emissions and construct a flowchart to show what action can be taken. 7. Estimate the size of the class' carbon footprint and then visit the **Kids Carbon Footprint** website to complete exact calculations 8. Investigate FutureSparks to find out about energy sources and create a Plus, Minus and Interesting (PMI) Chart comparing renewable and non-renewable sources of energy 9. Make links between the Earth Charter principles and the responsible use of Earth's resources

INQUIRY PHASE 2 – EXPLORE – DEFINING THE SCOPE FOR ACTION

Learning Objectives

- Collect data on energy consumption in the school
- Explain why we need to consider the future when making choices about energy

INQUIRY QUESTIONS	SUGGESTED LEARNING AND TEACHING SEQUENCE
• How do we measure electricity? • How much electricity are we using? • Why should we conserve energy? • How can we reduce our energy consumption? • What is peak energy? • How can we design our buildings to conserve energy?	1. Visit the Energex website to find out how electricity is measured. 2. Develop different scenarios using the local electricity prices in your area and calculate and compare the costs of using electricity. Give reasons as to why some scenarios might have to pay more expensive or less expensive amounts 3. Conduct an Energy Audit using the Energy Audit data collection resources and find out about the power users and the total amount of power being consumed in your school. 4. Record the data and display in a graph or table for future monitoring and analysis. 5. Discuss how the results may change during peak and off-peak times. 6. Use the class blog to record the results of your energy audit 7. Visit the Green Star Schools website to find strategies for reducing energy consumption 8. Use the class blog to record the suggestions for reducing energy consumption 9. results of your energy audit and make a reference list of links and information sources on the issues

INQUIRY PHASE 3 – EXPLAIN – DEVELOPING THE PROPOSAL FOR ACTION

Learning Objectives

- Identify ways that people can make a difference by taking action to conserve energy
- Generate ideas for actions to help raise awareness of environmental issues
- Connect with people in the community who can provide feedback and support

INQUIRY QUESTIONS	SUGGESTED LEARNING AND TEACHING SEQUENCE
• How could we be inspired by the Power Rangers at Our Lady of the Rosary School? • Which issues should we choose as the focus for our action plan? • Who could help us to decide what we can do to make a difference? • Who can support us in our action plan?	• Discuss the actions taken by Green Lane Heroes at Our Lady of the Rosary School to monitor and reduce their energy consumption • Invite a representative from a local community organisation to inspire your class with possible ideas for action • Using the Green Lane Diary project plan and scrapbook, brainstorm, draw and record ideas for actions • Weigh up the pros and cons of different courses of action • Choose the most effective action • Identify the person in the school who has the authority to approve the action and prepare a detailed proposal for presentation

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
• 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?	• 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
• 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?	• 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

- *'Thinking Globally: Global Perspectives in the Early Years Classroom'* by Julie Browett and Greg Ashman.

DIGITAL LINKS

- Global Education – Teacher resources to encourage a global perspective across the curriculum: **http://www.globaleducation.edu.au/**
- WordSift: **http://www.wordsift.com/**
- Blogger: **www.blogger.com**
- Stixy: **http://www.stixy.com/**
- Energy and Kids: **http://www.kids.esdb.bg/newenergy.html**
- Kids Carbon Footprint: **http://www.cooltheworld.com/kidscarboncalculator.php**
- An Inconvenient Truth: **http://www.climatecrisis.net/an_inconvenient_truth/photos_and_videos.php**
- Energex: **http://www.energex.com.au/switched_on/electric_energy/electric_terms_units.html**
- Brisbane Catholic Education - Energy Audit Data Collection - Teaching Resources: **http://esd.bne.catholic.edu.au/collecting.htm**
- Brisbane Catholic Education – Energy Audit Data Analysis – Teaching Resources: **http://esd.bne.catholic.edu.au/analyse.htm**
- Ollie's World – Energy Saving Game: **http://www.olliesworld.com/club/gamehouse.htm**
- YouTube
    - Global Warming 101: **http://www.youtube.com/watch?v=oJAbATJCugs**