

Energy Breakthrough Unit (Years 4-6)

<p>Unit Summary</p>	<p>This unit will enable students to investigate the idea of ‘energy’ to build, increase and harness energy sources. One important aim of the unit will to build student capacity in relation to Global Warming and the impact we humans are having on the World. We will investigate both renewable and non-renewable energy and the effects they have on the environment.</p> <p>As part of the program students build their knowledge and gain confidence in presenting known information to an audience. Students are required to work as part of a team, to equally share responsibility for completing their project. The presentation is an opportunity for students to apply their ideas, knowledge and skills learnt from a range of contexts to demonstrate their understanding of team work, global warming and design feature of their cart/vehicle.</p>	
<p>Big Ideas & Understandings</p>	<p>Understandings</p> <ul style="list-style-type: none"> • Bike Mechanics (gears and how they work) • Healthy Eating & fitness development • Health is a choice and some people have more choice than others • Global Warming and the impact humans are having on the environment • Working as part of a team, collaboration • Forces 	<p>Big Ideas</p> <p>Our place in the World Conservation Teamwork - cooperation</p>
<p>Driving Questions</p>	<ul style="list-style-type: none"> • How can we improve? • What can we do to help? • What makes a successful team? • What do we need to find out? 	<p>Focusing Questions</p> <ul style="list-style-type: none"> • How can we improve our health and fitness? • Why is it important to improve our health and fitness? • Why is it important to reduce our carbon footprint? • How can we maximise our teams efforts?
<p>Provocations / General Resources</p>	<ul style="list-style-type: none"> • Expert advice – GUEST SPEAKER OPTION • Energy Breakthrough Handbooks • Greenhouse Effect, Energy & science books • Bike Education Program • Team building games • Networking with other schools • Online conferencing with outside professionals 	

Specific Learning Focus	Learning Goals	Standards
Learning Goals & Standards	<p><u>Knowledge:</u></p> <ul style="list-style-type: none"> • Knows the types of renewable energy • Knows the effects and problems related to non-renewable energy • Builds an expanded vocabulary for mechanics as a result of engage with experts and researching <p><u>Skills & know how:</u></p> <ul style="list-style-type: none"> • Knows how to ask quality questions and build on the ideas of others • Can critically evaluate and offer respectful commentary on the spoken language/presentation of others • Prepares for and conducts a clear presentation of ideas to an audience • Composes their own presentation piece based on the given topic • Know how to back up their answers to questions using evidence, research and examples confidently • Know how to consider and read an audience and obtain feedback in order to judge the effectiveness of a presentation. <p><u>General Capabilities:</u></p> <ul style="list-style-type: none"> • Discussion & questioning skills • Team and collaboration skills • Self-management skills • Time management • Inquiry and research skills • Higher Order thinking skills (analysis, interpretation, conjecture, evaluation, reflection) 	<p>HPE Reading & Viewing Speaking & Listening Science Design Technologies Social and Emotional Development Creative and Critical Thinking Maths</p>

	<ul style="list-style-type: none">• Oral presentation to an unknown audience• Self confidence• Goal setting and reflection			
Assessments	Speaking & Listening – presentation efforts, learning parts, and personal conduct during	Writing Task – Preparing presentation information, clear logical manner. Spelling etc Expanded Vocabulary used	Self-Management and team collaboration: Select and monitor personal and team goals? Participation?	

Term 4 – Integrated Planner

Week 1	Healthy Eating - what it is? Types of different food groups
Week 2	Healthy Eating Choices What to eat to fuel our bodies for racing... GUEST SPEAKER OPTION
Week 3	Non-renewable Energy Fossil Fuels The Greenhouse effect – what it is, how it works, the impact Greenhouse Gases, Carbon emissions, Carbon Footprint
Week 4	Renewable Energy – Solar, Wind, Water what and how they work Other types of Renewable energy GUEST SPEAKER OPTION
Week 5	Global Warming – what it is, how it works, the impact Ozone layer
Week 6	Transport and the Environment Mechanics of the vehicle, aerodynamics, gears, Ackermann steering, etc Safety aspects GUEST SPEAKER OPTION
Week 7	The event in Maryborough!!!! Poster/brochure to promote their learning about protecting our environment to share with the school community.
Week 8	Poster/brochure to promote their learning about protecting our environment to share with the school community.
Week 9	Year in review. Scrapbooking collage of photos from the year
Week 10	Year in review. Scrapbooking collage of photos from the year