

THEMES, TOPICS, QUESTIONS ...

STAGE 3 (Year 5 & 6)

THEME	TOPICS	SCIENTIFIC INVESTIGATIONS related to TOPICS
<p>Physical Phenomena FOCUS = understanding that energy can be transferred, stored and transformed from one form to another.</p>	<p>Energy: Transfer, storage and transformation</p>	<p>Solar energy</p> <ul style="list-style-type: none"> • Which colour absorbs the sun's heat best? • Which material (sand, salt, water, paper) stores solar energy the best? • Which tubing (colour, dimension, type of material) is the best for heating water? • How long does it take to cook a marshmallow with the sun?... heat a cup of water for tea with the sun?... • Which shape and colour of playdough heats up the quickest in the sun? <p>Heat energy</p> <ul style="list-style-type: none"> • Which material keeps water the hottest for longest? • How much energy can be saved by boiling water in a covered pan? • Which material keeps an ice cube from melting for the longest? • Does wind change the evaporation rate of water drops? <p>Electrical energy</p> <ul style="list-style-type: none"> • Which materials are good electrical conductors? • Which AA battery is the best? • What is the most amount of wire that can be used in an electrical circuit and the bulb still lights?
<p>Interconnecting growth and change FOCUS = exploring the physical, social and emotional changes associated with growth. Living things and environments interconnect and change within ecosystems.</p>	<p>Change/ Differences</p>	<p>Growth and change over time:</p> <ul style="list-style-type: none"> • How do plants change in height, weight, leaf size, leaf number etc over time? <p>Physical attributes/sensory levels of people:</p> <ul style="list-style-type: none"> • Are people with big feet the tallest? • Is blonde hair stronger than black hair? • Can boys hear/see/taste/touch/smell better than girls?
	<p>Ecosystems</p>	<p>Plants:</p> <ul style="list-style-type: none"> • How much water do different leaves transpire? • How does soil salinity levels/pH/temperature affect the growth of wheat? • How many different types of plants are there in the school grounds? • How many different types of soil are there in the school grounds? • Which soil holds the most water? • How can soil be changed to hold more water? • Does mulch 'work'? • What is the best way to germinate <i>Banksia</i> seeds? <p>Animals:</p> <ul style="list-style-type: none"> • What foods do ants like best? • How many different types of animals live in the school grounds? • How many types of animals visit the school grounds? • What is the best shape/colour/type of feeder or native plants to attract more rainbow lorikeets to the school grounds? • Can we increase the school lizard population by placing hollow logs/planting native grasses around the school

		<p>grounds?</p> <ul style="list-style-type: none"> • Are there more animals living in shrubs or in trees? <p>Waterway:</p> <ul style="list-style-type: none"> • How does the pH, temperature and turbidity vary with different local waterways?... before and after rain? • How does the number and types of aquatic animals vary with different local waterways? <p>School grounds</p> <ul style="list-style-type: none"> • What is the windiest/wettest/sunniest place in the school? • How do the numbers and types of plants differ between the sunniest and shadiest parts of the school grounds? • Who can grow the most thumb tomatoes?
<p>Symbol systems FOCUS = understanding that symbols can be personal, cultural and global. We use symbols to communicate in many ways including art, product design, different media and movement. The cultural diversity of Australia provides opportunities for us to explore different symbol systems.</p>	Communication	<p>Colour</p> <ul style="list-style-type: none"> • Which background and foreground colours are best for sign visibility? Use these for different logos and see which one viewers prefer (compared to the original). <p>Symbols</p> <ul style="list-style-type: none"> • Which symbols are the most easily recognised by different age groups? • How much (how many lines) of a shape is needed for it to be recognised? • What is the minimum number of pictures in a flick book to show the dangers of throwing a lit cigarette into leaves? <p>Size</p> <ul style="list-style-type: none"> • When jogging/cycling how big does a sign have to be to be easily read? <p>Sounds</p> <ul style="list-style-type: none"> • Use natural materials from the school grounds to make 'weather instruments'. Test the instruments with audiences to see if they are recognisable.
<p>Living Land FOCUS = exploring the influence of the natural, built, and heritage environments on people's lifestyle choices, leisure and artistic expression. Our actions impact upon the environment and have implications for the future.</p>	Sustainability Design	<p>Shelter</p> <ul style="list-style-type: none"> • How can a shoe box house be modified so that it stays 'cool in summer' and warm in winter? • How much hotter does a 'house' get when the windows face north instead of south? • What do eaves do? • Would a house with a dark roof be more or less expensive to air condition in summer? • Which windows in the classroom are the draughtiest? <p>Materials</p> <ul style="list-style-type: none"> • Which recycled paper (made from newspaper, tissues, paper towels...) is the best for... writing, wrapping, absorbing liquids? • Which tubing (colour, dimension, type of material) is the best for heating water? • Which material keeps water the hottest for longest? • Which colour absorbs the sun's heat best? • Which material (sand, salt, water, paper) stores solar energy the best?