THE GREENWAY TEACHERS' WORKBOOK
STAGE 2 (YEARS 3 & 4) CURRICULUM FRAMEWORK

KLA	Objectives	Outcomes	Activity Sheets *(Content focus in italics)* **(Consider, 'What are they learning? Why does it matter?')**
HSIE GEOGRAPHY (The Earth's Environment)	Students: • Apply geographical tools for geographical inquiry • Develop skills to acquire, process and communicate geographical information	**GE2-4** A student is able to: • acquire and communicate geographical information using geographical tools for inquiry	*Where in the World? A` ctivity Sheet One* Uses satellite images and a map to introduce the *Cooks River to Iron Cove GreenWay.* Students learn about features on the maps (labels, key or legend, logo, caption) and complete a key, decide the direction of the water flow and create a mud map summarising key features shown in the previous images. *Where in the World? Activity Sheet Two* Students learn to navigate *GoogleEarth* using the compass & move joysticks & zoom slider. They are introduced to the different icons while they 'fly to' their place.
HSIE GEOGRAPHY (The Earth's Environment)	Students: • Develop knowledge and understanding of the features and characteristics of places and environments across a range of scales • Develop knowledge and understanding of interactions between people, places and environments	**GE2-1** A student is able to: • examine features and characteristics of places and environments **GE2-2** A student is able to: • describe the ways people, places and environments interact **GE2-3** A student is able to: • examine differing perceptions about the management of places and environments	*Where in the World? Activity Sheet Three* Students continue using *GoogleEarth* to see the *GreenWay* from the air. Through a Quick Quiz they are provided with opportunities to identify features & use icons and describe places in relation to each other. *(Students explore the natural vegetation and native animals of places in Australia. They examine the importance of natural vegetation and natural resources to the environment, animals and people and learn about the ways people value environments.*

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MATHS (Measurement & Geometry) **MATHS (Working Mathematically)** **MATHS (Number & Algebra)**	Students: • identify, visualise and quantify measures and the attributes of shapes and objects, and explore measurement concepts and geometric relationships, applying formulas, strategies and geometric reasoning in the solution of problems • develop understanding and fluency in mathematics through inquiry, exploring and connecting mathematical concepts, choosing and applying problem-solving skills and mathematical techniques, communication and reasoning • develop efficient strategies for numerical calculation, recognise patterns, describe relationships and apply algebraic techniques and generalisation	**MA2-17MG** A student is able to: • use simple maps and grids to represent position and follow routes, including using compass directions **MA2-9MG** A student is able to: • measure, record, compare and estimate lengths, distances and perimeters in m, cm & mm **MA2-2WM** A student is able to: • select and use appropriate mental or written strategies, or technology, to solve problems **MA2-5NA** A student is able to: • use mental and written strategies for addition and subtraction involving two-, three- and four-digit numbers	*Where in the World? Activity Sheet Four* Students use the place marker feature of *GoogleEarth* to map the path between their school & the *Greenway.* They add distances along the path & calculate the time taken for their journey. A **New Vocab Sheet** is provided.
HSIE GEOGRAPHY (The Earth's Environment) **SCITECH (Skills)**	Students: • Develop knowledge and understanding of the features and characteristics of places and environments across a range of scales • Develop knowledge and understanding of interactions between people, places and environments Students: • Develop knowledge, understanding of and skills in applying the processes of Working Scientifically	**GE2-1** A student is able to: • Examine features and characteristics of places and environments **GE2-2** A student is able to: • Describe the ways people, places and environments interact **ST2-4WS** A student is able to: • Investigate their questions and predictions by analysing collected data, suggest explanations for their findings, and communicate and reflect on the processes undertaken	*Water Matters! Activity Sheet One* Students learn about the Water Cycle through a *Sydney Water* website animation then match new terms: water cycle, evaporation, condensation & precipitation, with their meanings. Transpiration is explained & they conduct a simple investigation to collect water from leaves. They estimate how many rain days Sydney has.

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SCITECH (Built Environments)	Students: • Develop knowledge and understanding of the Made Environment through Built Environments	**ST2-14BE** A student is able to: • Describe how people interact within built environments and the factors considered in their design and construction	*Water Matters! Activity Sheet Two* Students think about the water that falls on their roofs & where it goes before completing simple Maths on water usage. They consider where we would get water if none came out of the tap & whether having to collect water manually would reduce our usage.
SCITECH (Working Technologically)	Students: • Develop knowledge and understanding of the Made Environment through Working Technologically	**ST2-5WT** A student is able to: • Apply a design process and use a range of tools, equipment, materials and techniques to produce solutions that address specific design criteria	*Water Matters! Activity Sheet Three* Using a recycled aquarium or clear plastic box (*Reverse Garbage*?), students create a catchment & observe & record water flows. Students refer to the Sydney Water website to learn about water & how we can be waterwise.
SCITECH (Earth & Space)	Students: • Develop knowledge of the Natural Environment through understanding of Earth and Space	**ST2-9ES** A student is able to: • Describe how relationships between the sun and the Earth cause regular changes	*Water Matters! Activity Sheet Four* Students learn about tides in the Hawthorne Canal. There is an opportunity to research tides. A **New Vocab Sheet** is provided.
HSIE GEOGRAPHY (The Earth's Environment)	Students: • Develop knowledge and understanding of interactions between people, places and environments	**GE2-2** A student is able to: • describe the ways people, places and environments interact **GE2-3** A student is able to: • examine differing perceptions about the management of places and environments	*The Drain Is Just For Rain! Activity Sheet* Students place themselves in the 'Drain Is Just For Rain' picture and colour the water flows into the river before matching the different forms of pollution with their source. Includes a *The Drain Is Just For Rain!* ***Solution Sheet.***

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PDHPE **Personal Health Choices**	Students: • Discuss the factors influencing personal health choices	**PHS2.12** A student is able to: • identify their responsibility to contribute towards a healthy environment	*Rubbish Activity Sheet One!* Students identify the litter in the photo, identify what is natural then discuss how best to dispose of leaves.
SCITECH **(The Built Environment)**	Students: • develop knowledge and understanding of the Made Environment through Built Environments	**ST2-14BE** A student is able to: • describe how people interact within built environments and the factors considered in their design and construction	*Rubbish Activity Sheet Two!* Students are given a photograph to interpret & explain how the pollution trap in Hawthorne Canal works. A **Solution Sheet** is provided.
MATHS **(Number & Algebra)**	Students: • develop efficient strategies for numerical calculation, recognise patterns, describe relationships and apply algebraic techniques and generalization	**MA2-7NA** A student is able to: • Represent, model and compare commonly used fractions & decimals	*Rubbish Activity Sheet Three!* Students conduct a waste audit in the Hawthorne Canal or their school before listing ideas for reducing litter.
MATHS **(Statistics & Probability)**	Students: • collect, represent, analyse, interpret and evaluate data, assign and use probabilities, and make sound judgements	**MA2-18SP** A student is able to: • Select appropriate methods to collect data, and construct, compare, interpret and evaluate data displays, including tables, picture graphs and column graphs	*Rubbish Activity Sheet Four!* Using waste data from the 2009 *CleanUp Australia* Day campaign, students create a pie graph to illustrate the different percentages of major rubbish before considering how to reduce plastic bottle use in their school.
CREATIVE ARTS **Visual Arts**	Students: • Represent the qualities of experiences & things that are interesting by choosing among aspects of subject matter	**VAS2.1** A student is able to: • Select and explore different aspects of subject matter in particular ways in their making of artworks. • Learn how artists, including themselves, have intentions that affect the look of the work and its details	*Rubbish Activity Sheet Five!* Students analyse children's drawings & consider the artist's intent & the effectiveness of the art. They then create their own poster that will persuade others to care for their environment. A **New Vocab Sheet** is provided.

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SCITECH Living World **SCITECH Working Scientifically**	Students: • develop knowledge of the Natural Environment through understanding of the Living World Students: • develop knowledge, understanding of and skills in applying the processes of Working Scientifically	**ST2-11LW** A student is able to: • describe ways that science knowledge helps people understand the effect of their actions on the environment and on the survival of living things **ST2-10LW** A student is able to: • describe that living things have life cycles, can be distinguished from non-living things and grouped, based on their observable features **ST2-4WS** A student is able to: • investigate their questions and predictions by analysing collected data, suggesting explanations for their findings, and communicating and reflecting on the processes undertaken	*Bio What? Activity Sheet One* Students are introduced to Biodiversity by being challenged to find six key words in a word maze. They are introduced to the concept of layers in forests - trees, shrubs and groundcovers - & are provided with discussion questions about what happens when a layer is removed. *Bio What? Activity Sheet Two* This sheet provides instructions for conducting a tree shake to discover what bugs live in a local tree. The Australian Museum's, 'Bugwise' sheets can help with identification. *Bio What? Activity Sheet Three* Students observe & record the number of different plants in two separate study areas & collect invertebrates from mulch to determine which has the greater biodiversity and healthier ecosystem.
HSIE HISTORY (Community and Remembrance)	Students: • develop knowledge and understanding about the nature of history and key changes and developments from the past	**HT2-2** A student is able to: • describe and explain how significant individuals, groups and events contributed to changes in the local community over time **HT2-5** A student is able to: • apply skills of historical inquiry and communication	*Caring For Country* Students are introduced to the Cadigal-Wangal people who lived in the area now known as the *GreenWay,* & the ways in which they may have used the land. *Caring For Country Activity Sheet One* Students investigate the ways in which the Cadigal-Wangal people may have used the plants & animals that lived in the coastal areas of early Sydney by matching plants & animals with described uses. A *Caring For Country* ***Solution Sheet*** is provided.

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CREATIVE ARTS Visual Arts	Students: • acknowledge that artists make artworks for different reasons & that various interpretations are possible	**VAS2.3** A student is able to: • discuss reasons why artists make artworks • recognise that people have different views about artworks & their meanings, informed by their understanding of such things as the circumstances of the work, the artist's intentions & skill & what the work is about	*Art in the GreenWay Activity Sheet One* Students see before & after photos of the Lords Road mural site & are introduced to the process of developing & painting the mural. Discussion questions relating to art appreciation are provided: what shapes, colours and patterns are represented? What has been the artists' intention? Have they been successful? Students are referred to the *Greenway* website to find out what current art projects they or their school could be involved with.
	Students: • identify connections between subject matter in artworks & what they refer to, & appreciate the use of particular techniques	**VAS2.4** A student is able to: • identify resemblances between subject matter in artworks & the features of things as they exist in the world, recognising similarities & differences in how things are represented in the artworks • express opinions about how well subject matter that is represented in particular forms refers to the world, & appreciate the skills involved to achieve these effects • talk & write about the meaning of artworks in terms of how subject matter realistically represents things in the world	*Art in the GreenWay Activity Sheet Two* In a teacher-led discussion the students consider the materials used in the mosaic, the different colours, how movement is suggested, how the artwork makes them feel, how what's shown is different from Hawthorne Canal, what the artists were trying to achieve & how successful they have been. Students write about the mosaic for their class, explaining how the artwork gives us a different way of seeing Hawthorne Canal. A **New Vocab Sheet** is provided.
HSIE GEOGRAPHY (The Earth's Environment)	Students: • develop knowledge and understanding of the features and characteristics of places and environments across a range of scales • develop knowledge and understanding of interactions between people, places and environments	**GE2-1** A student is able to: • examine features and characteristics of places and environments **GE2-2** A student is able to: • describe the way people, places and environments interact **GE2-3** A student is able to: • examine differing perceptions about the management of places and environments	*Why Wetlands Activity Sheet* A narrative introduces students to wetlands & why they are important to the health of rivers. Students list all the actions & materials that made the wetlands unhealthy as well as the actions that helped make the wetland healthy again. Students create a poster to display around the school grounds showing why wetlands are important.

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HSIE HISTORY (Community and Remembrance)	Students: • develop knowledge and understanding about the nature of history and key changes and developments from the past	**HT2-2** A student is able to: • describe and explain how significant individuals, groups and events contributed to changes in the local community over time **HT2-5** A student is able to: • apply skills of historical inquiry and communication	*History and Heritage Activity Sheet* Simple explanations of history, historian, heritage, sources & evidence. Students complete a simple sequence of events in the early history of the *GreenWay* corridor then interview another student. A **New Vocab Sheet** is provided. *Using The History Source Sheets* For teachers' use, this suggests how the three History Source Sheets could be used. See further detail below.
HSIE HISTORY (Community and Remembrance)	Students: • develop knowledge and understanding about the nature of history and key changes and developments from the past	**HT2-2** A student is able to: • describe and explain how significant individuals, groups and events contributed to changes in the local community over time **HT2-5** A student is able to: • apply skills of historical inquiry and communication	*History Source Sheet One: The Cadigal-Wangal* Students read extracts from different sources: journals, a letter, a diary & a book, to gain an insight into what life was like for the Cadigal-Wangal at the time of early British settlement. Students imagine a day in the life of a Cadigal or Wangal clan member & write a story describing what it is like.
HSIE GEOGRAPHY (The Earth's Environment)	Students: • develop knowledge and understanding of interactions between people, places and environments	**GE2-2** A student is able to: • describe the way people, places and environments interact	*History Source Sheet Two: Picture Study* Students follow instructions to colour an image showing Aboriginal people fishing on Sydney Harbour at a time before cameras & computers. They then answer questions related to how the Cadigal & Wangal people made use of the natural environment.
CREATIVE ARTS Visual Arts	Students: • acknowledge that artists make artworks for different reasons & that various interpretations are possible	**VAS2.3** A student is able to: • discuss reasons why artists make artworks • recognise that people have different views about artworks & their meanings, informed by their understanding of such things as the circumstances of the work, the artist's intentions & skill & what the work is about	Finally students make their own drawing of the canoe shown in the picture, identifying and labelling the materials used.

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HSIE HISTORY (Community and Remembrance) **ENGLISH (Handwriting and using Digital Technologies)**	Students: • develop knowledge and understanding about the nature of history and key changes and developments from the past Students: • communicate through speaking, listening, reading, writing, viewing and representing	**HT2-2** A student is able to: • describe and explain how significant individuals, groups and events contributed to changes in the local community over time **HT2-5** A student is able to: • apply skills of historical inquiry and communication **EN2-3A** A student is able to: • use effective handwriting and publish texts using digital technologies	*History Source Sheet Three: Farms, Fun and Fish* Students read ten quotes relating to the use of the land near Long Cove Creek for farming & later housing, from 1790 to 2010. Students create a digital story using images from the Internet to present change from the time of the Cadigal-Wangal occupation of the area near Long Cove Creek up until today.
MATHS (Measurement & Geometry) **HSIE HISTORY (Community and Remembrance)**	Students: • read & record time in one minute intervals and convert between hrs, mins & secs Students: • develop knowledge and understanding about the nature of history and key changes and developments from the past	**MA2-13MG** A student is able to: • read and interpret simple timelines **HT2-2** A student is able to: • describe and explain how significant individuals, groups and events contributed to changes in the local community over time	*Completing A Timeline Activity Sheet* Students have the opportunity to work with their teacher to sequence dates from the oldest to the most recent & use these to complete a timeline of changes in the *GreenWay* from pre-colonisation up to 2010. A **Solution Sheet** is provided. Students select three events that they believe changed the *GreenWay* in a significant way. They say whether they think these changes were good or bad & explain why.
HSIE GEOGRAPHY (The Earth's Environment)	Students: • develop knowledge and understanding of the features and characteristics of places and environments across a range of scales • develop knowledge and understanding of interactions between people, places and environments	**GE2-1** A student is able to: • examine features and characteristics of places and environments **GE2-2** A student is able to: • describe the way people, places and environments interact **GE2-3** A student is able to: • examine differing perceptions about the management of places and environments	*Weeds-Why Worry? Activity Sheet* Students learn about plants growing in the wrong place ie weeds & why they are a problem before reading about what we can do to reduce weeds in our local area. A simple guessing competition helps everyone identify weeds. Students use a digital camera to record weeds in the school grounds & create a poster that informs other students. They then have the opportunity to work through a **Sustainability Action Process** involving the school, the parent and wider community removing weeds & replacing them with native plants.

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SCITECH (Living World) **SCITECH (Working Scientifically)**	Students: • develop knowledge of the Natural Environment through understanding about the Living World	**ST2-10LW** A student is able to: • describe that living things have life cycles, can be distinguished from non-living things and grouped, based on their observable features **ST2-11LW** A student is able to: • describe ways that science knowledge helps people understand the effect of their actions on the environment and on the survival of living things **ST2-4WS** A student is able to: • investigate their questions and predictions by analysing collected data, suggesting explanations for their findings, and communicating and reflecting on the processes undertaken	*Birds In Backyards Activity Sheet One* Students learn about birds from the *Wolli Creek Preservation Society* website which has galleries of photos and links to activity sheets & posters. *Birds In Backyards Activity Sheet Two* Students follow instructions to make a bird's nest then conduct a simple experiment to see if the 'eggs' are attacked by any other animals or birds. *Birds In Backyards Activity Sheet Three* Students learn about birds found in their local area by listening to bird call & testing their recall. They then use a digital camera to collect photos & bird calls from their school playground or the *GreenWay*. The photos, information& sounds are compiled as a digital book (a pdf file). Notes from the *Adobe Acrobat7* site are provided. *Birds In Backyards Activity Sheet Four* Students use clues to identify native birds commonly found in their local area. They provide three interesting facts & a simple drawing.
SCITECH (Living World) **CREATIVE ARTS (Drama)**	Students: • develop knowledge of the Natural Environment through understanding about the Living World	**ST2-10LW** A student is able to: • describe that living things have life cycles, can be distinguished from non-living things and grouped, based on their observable features **DRAS2.1** A student is able to: • take on and sustain a role in a variety of drama forms to express meaning in a wide range of imagined situations	*Is that A Bandicoot I Saw? Activity Sheet* Students read a poem that describes the appearance & behaviour of the long-nosed bandicoot before further investigation using the Fact Sheet on the *Greenway* website. Students can role play the behaviour in the poem. A **Solution Sheet** is provided.

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SCITECH (Living World)	Students: • develop knowledge of the Natural Environment through understanding about the Living World	**ST2-10LW** A student is able to: • describe that living things have life cycles, can be distinguished from non-living things and grouped, based on their observable features **ST2-11LW** A student is able to: • describe ways that science knowledge helps people understand the effect of their actions on the environment and on the survival of living things	*Bandicoot Buddies Activity Sheet One* Students learn about native & introduced animals & threats they pose to native animals before classifying animals as indigenous or introduced. A **Solution Sheet** is provided. *Bandicoot Buddies Activity Sheet Two* Students learn about animals in the *Greenway* through playing with rhyming words. A **Solution Sheet** is provided.
HSIE GEOGRAPHY (The Earth's Environment)	Students: • develop knowledge and understanding of the features and characteristics of places and environments across a range of scales • develop knowledge and understanding of interactions between people, places and environments	**GE2-1** A student is able to: • examine features and characteristics of places and environments **GE2-2** A student is able to: • describe the way people, places and environments interact **GE2-3** A student is able to: • examine differing perceptions about the management of places and environments	*Our Place Activity Sheet* Students are asked to think about the things they like about where they live. The process for establishment of the *Greenway* from vision through action to masterplan & funding is outlined before students identify ways in which they can be involved.

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SCITECH (Built Environments) **HSIE GEOGRAPHY (The Earth's Environment)** **MATHS (Statistics & Probability)** **MATHS (Measurement & Geometry)** **PDHPE (Active Lifestyle)** **ENGLISH (Speaking & Listening)**	Students: • develop knowledge and understanding of the Made Environment through Built Environments Students: • develop skills to acquire, process and communicate geographical information Students: • collect, represent, analyse, interpret and evaluate data, assign and use probabilities, and make sound judgements Students: • identify, visualise and quantify measures and the attributes of shapes and objects, and explore measurement concepts and geometric relationships, applying formulas, strategies and geometric reasoning in the solution of problems Students: • identify the activities people participate in to maintain an active lifestyle Students: • express themselves and their relationships with others and their world	**ST2-14BE** A student is able to: • describe how people interact within built environments and the factors considered in their design and construction **GE2-4** A student is able to: • acquire and communicate geographical information using geographical tools for inquiry **MA2-18SP** A student is able to: • select appropriate methods to collect data, and construct, compare, interpret and evaluate data displays, including tables, picture graphs and column graphs **MA2-17MG** A Student is able to: • use simple maps and grids to represent position and follow routes, including using compass directions **ALS2.6** A student is able to: • discuss the relationship between regular & varied physical activity & health **EN2-1D** A student is able to: • respond to and compose a range of texts that express viewpoints of the world similar to and different from their own	*Let's Go! Activity Sheet One* Students are introduced to Long Cove Creek valley as a transport corridor since ancient times. Students design an environmentally-friendly light rail station & include written explanations for their choices. *Let's Go! Activity Sheet Two* Students complete a mud map (on either paper on in the dirt!) for a new neighbour, showing their path to & from school with key landmarks identified before conducting a simple transport survey-either a ten-minute tally or a survey of their classmates' modes of transport. They calculate the total distances travelled to school each day via different modes then graph their information. *Let's Go! Activity Sheet Three* Students are introduced to the 'Walking School Bus' & the benefits of walking. They complete a 'Walkability Checklist' that identifies problems with walking in the local area & suggest actions to remove or lessen these problems. They then collaboratively write a **persuasive text** to convince the school principal to hold a 'Walk to School' day. A **Solution Sheet** & **New Vocab Sheet** are provided. *Let's Go! Activity Sheet Four* Students record the benefits of riding a bike & compare their answers with others.

STAGE 3 OBJECTIVES AND OUTCOMES			
KLA	**Objectives**	**Outcomes**	**Activity Sheets *(Content focus in italics)* (Consider, 'What are they learning? Why does it matter?')**
HSIE GEOGRAPHY (Factors that Shape Places)	Students: • develop knowledge and understanding of the features and characteristics of places and environments across a range of scales • develop knowledge and understanding of interactions between people, places and environments	GE3-1 A student is able to: • describe the diverse features and characteristics of places and environments GE3-2 A student is able to: • explain interactions and connections between people, places and environments GE3-3 A student is able to: • compare and contrast influences on the management of places and environments	*Let's Change 4 Our Planet* Provides links to Stage 3 areas of interest: Climate Change and Energy Use. **Climate Change** 'Climate Change For Beginners' is on the Field of Mars Environmental Education Centre website at: http://fieldofmarseec.nsw.edu.au Part of the rationale states that: *'…This unit will provide students with a clear understanding of the causes and effects of climate change and most importantly, the changes we need to make as individuals, organisations and as a society to reduce the likelihood that catastrophic climate change will eventually take place.'* Teachers are provided with a brief synopsis of the movie. **Energy Use** Provides link to *Sustainable Schools NSW* at*:* *http://www.environment.nsw.gov.au/sustainableschools/* Tools & support for conducting a school energy audit & developing an energy savings plan.