

Fairfield City Council Catchment Education Program for Schools

ABOUT THIS PACKAGE

Welcome! This package will support you in the classroom to work towards outcomes in Stage 3 and 4 NSW Geography syllabus.

WHO IS THIS PACKAGE FOR?

All NSW Stage 3 primary and Stage 4 high school teachers and students in the Fairfield Local Government area can participate in this program. This package will enable students to develop understanding about the geography of their world and address the contemporary issues they face through an incursion with a catchment expert and through a project based learning opportunity.

WHAT IS INCLUDED IN THIS PACKAGE?

This package includes background information about local catchment issues, an incursion (or an excursion to Nullawalla Sustainability Hub) and extension resources for learning back in the classroom. The intent is that schools engage with the package and develop in-school projects in response to the incursion.

Note: **council could explore nesa endorsement**

WHO DEVELOPED THIS PACKAGE?

Fairfield City Council staff would like to support teachers in the implementation of Geography Units for **Stage 3 students 'FACTORS THAT SHAPE PLACES'** and **Stage 4 students 'WATER IN THE WORLD'**. The Council collect a storm water levy and have developed this package as part of the Community Water Program "Our Water, Our Community, Our Future".

BENEFITS OF PARTICIPATING IN THIS PROGRAM:

All geography incursions include interactive, hands-on learning with the catchment model to explore themes around flooding, water quality, littering and pollution, riparian biodiversity (aquatic and terrestrial). The model provides an easily accessible way to explore natural and man-made systems, including Gross Pollutant Traps, Bank Stabilisation, re-installing meanders and vegetation buffers etc.

To register your interest contact:

fairfield@fairfield.nsw.gov.au or call



"Teaching this unit gave us a great way of integrating sustainability and cross curriculum priorities in the classroom." Teacher, Public School

About Fairfield City's catchment model

Our catchment model is an interactive model which provides both a visual and tactile participatory experience for our participants. The model was developed by an artist and 3D printed.

THE MODEL INCLUDES REAL PLACES FOUND ACROSS FAIRFIELD CITY AND DEMONSTRATES REAL LIFE WATER PROCESSES.

The model provides a 'birds eye view' of our streets and how creeks are managed.

During the incursion, one of our expert catchment educators will guide participants through the model with storytelling about local places. Students will 'make it rain' and see where the water flows. They will investigate landscape scale concepts around how catchments work, why and how floods occur, the importance of natural areas and biodiversity etc. Demonstration of real life examples of how Council manage the creeks and waterways across Fairfield including gross pollutant traps, rain gardens and soft fall surfaces.

Students will learn about the impacts affecting our creeks and trouble shoot solutions.

To Book call Council on: **99999999**

*"The games were fun, but I liked looking
for waterbugs the best."*

Student, Public School





Curriculum Resources

This Package supports teachers to work towards the **NSW GEOGRAPHY K-10 SYLLABUS**

STAGE 3 FACTORS THAT SHAPE PLACES

OUTCOMES

A student:

- describes the diverse features and characteristics of places and environments GE3-1
- explains interactions and connections between people, places and environments GE3-2
- compares and contrasts influences on the management of places and environments GE3-3
- acquires, processes and communicates geographical information using geographical tools for inquiry GE3-4

CONTENT FOCUS

Students investigate how people change the natural environment in Australia and other places around the world. They also explore how the environment influences the human characteristics of places. Students examine ways people influence the characteristics of places, including the management of spaces. Students explore the impact bushfires have on Australian people, places and environments and propose ways people can reduce the impact of bushfires in the future.

CONTENT

Factors that change environments

Students:

- investigate the ways people change the natural environment in Australia and another country, for example: (ACHGK026, ACHGK027)
- examination of how people, including Aboriginal and Torres Strait Islander Peoples, have influenced each country's environmental characteristics eg land clearing

ENVIRONMENTS SHAPE PLACES

Students:

- investigate how the natural environment influences people and places, for example: (ACHGK028)
- discussion of how climate influences the distribution of where people live M GS
- comparison of how landforms influence where and how people live in Australia and another country M VR

HUMANS SHAPE PLACES

Students:

- investigate how people influence places, for example: (ACHGK029)
- description of who organises and manages places eg local and state governments
- identification of ways people influence places and contribute to sustainability eg roads and services, building development applications, local sustainability initiatives FST
- examination of a local planning issue; the different views about it and a possible action in response to it

STAGE 4 WATER IN THE WORLD

OUTCOMES

A student:

- locates and describes the diverse features and characteristics of a range of places and environments GE4-1
- describes processes and influences that form and transform places and environments GE4-2
- explains how interactions and connections between people, places and environments result in change GE4-3
- discusses management of places and environments for their sustainability GE4-5
- acquires and processes geographical information by selecting and using geographical tools for inquiry GE4-7
- communicates geographical information using a variety of strategies GE4-8

Related Life Skills outcomes: GELS-1, GELS-2, GELS-3, GELS-5, GELS-7, GELS-8

CONTENT FOCUS

Students examine water as a resource and the factors influencing water flows and availability of water resources in different places. They investigate the nature of water scarcity and assess ways of overcoming it. Students discuss variations in people's perceptions about the value of water and the need for sustainable water management. Students also investigate processes that continue to shape the environment including an atmospheric or hydrologic hazard.

CONTENT

Water resources Students:

- investigate the characteristics and spatial distribution of global water resources, for example: (ACHGK037)
- classification of water resources
- identification of different forms of water used as resources VR
- examination of spatial distribution patterns of water resources M ST

THE WATER CYCLE

Students:

- investigate how the operation of the water cycle connects people and places, for example: (ACHGK038)
- identification of water cycle processes VR
- explanation of water flows within a catchment area M ST
- examination of factors influencing water flows and the availability of water resources in different places eg latitude, altitude, topography, location, climate change M VR

AUSTRALIA'S WATER RESOURCES

Students:

- investigate the quantity and variability of water resources in Australia and other places, for example: (ACHGK039)
- analysis of spatial variations in Australia's water resources eg groundwater, rivers M GS
- explanation of variations in freshwater water availability across Australia eg precipitation, groundwater, runoff VR
- assessment of variations in freshwater water availability between continents M GS

WATER SCARCITY AND WATER MANAGEMENT

Students:

- investigate the nature of water scarcity and ways of overcoming it, for example: (ACHGK040)
- description of the nature, extent and causes of water scarcity in different countries M GS
- assessment of strategies used to overcome water scarcity and the role of governments, non-government organisations, individuals and communities in sustainable water management
- proposal of individual actions contributing to water management

THE VALUE OF WATER

Students:

- investigate the economic, cultural, spiritual and aesthetic values of water for people, including Aboriginal and Torres Strait Islander Peoples and/or peoples of the Asia region, for example: (ACHGK041)
- description of the ways water is used by people eg agricultural, commercial, industrial and recreational uses VR
- discussion of variations in people's perceptions about the value of water eg economic versus aesthetic
- comparison of the importance of water to ONE Aboriginal and Torres Strait Islander community and/or ONE Asian community

NATURAL HAZARD

Students:

- investigate ONE contemporary atmospheric hazard or hydrologic hazard including causes, impacts and responses, for example: (ACHGK042)
- explanation of the spatial distribution, cause and impact of the disaster M VR
- examination of responses by individuals, groups and government to the impact of the disaster
- prediction of the impact of climate change on the occurrence, frequency and extent of this type of hazard M ST
- discussion of management strategies to reduce the future impact of similar hazard events



Extension Resources

Students will be empowered to take action in response to their learning. The following extension resources provide opportunities for educating and engaging with others as well as implementing physical solutions to reduce catchment impacts in your school or neighborhood. Please see resources and links below for lesson ideas.

1. Lesson Ideas -http://www.awa.asn.au/documents/Water_Educators_Toolkit_2016_web.pdf
2. Stormwater Audit of your school https://www.sydneywater.com.au/web/groups/publicwebcontent/documents/document/zgrf/mdq2/~edisp/dd_046703.pdf
3. Community education www.environment.nsw.gov.au/education-resources
4. Build a rain garden <https://www.melbournwater.com.au/community-and-education/help-protect-environment/raingardens>
5. Poop pick up <https://mosman.nsw.gov.au/residents/Pets/dog-poo-fairy>
6. Drain stencil <http://www.act.waterwatch.org.au/Files/education/drainstencilling.pdf>
7. Adopt a creek (litter clean up) <https://www.cleanup.org.au/clean-up-our-waterways>
8. Adopt a creek (bushcare riparian restoration) http://bushcare.org.au/files/1813/4310/3026/Final_high_resolution_3rd_edition.pdf
9. Adopt a creek (water testing) <https://www.nswwaterwatch.org.au/>
10. Build a model of your catchment <https://www.watercorporation.com.au/home/education/teaching-resources/find-a-lesson-plan/lesson-plan/make-a-model-of-a-community-catchment>
11. Create a stop motion animation Field of Mars EEC <https://fieldofmarseec.nsw.edu.au/digital-learning/> Brewongle EEC <https://brewongleec.com/>
12. Activism, ban plastic water bottles from sale from the school canteen <https://www.plasticfreesophia.com/>
13. Activism – fund raise for access to clean water in Australia and overseas <https://taronga.org.au/litter-free-oceans/>

