



Community
Water Program
Our Water, Our Community, Our Future



Lesson Plan Kit

Fairfield City Council
Catchment Model

A woman wearing a white cap, sunglasses, and a white t-shirt is smiling and talking to a young girl with long brown hair wearing a blue t-shirt. They are standing in a shallow stream with large, smooth rocks. The water is clear and flowing over the rocks.

Welcome to the Fairfield City Council Catchment Model Lesson Plan Kit!

SECTION 1 provides a short background and resources for preparing and planning your lessons.

SECTION 2 includes a Lesson Plan List, a Quick Reference Guide and Lesson Plans.



Section 1

Before you get started

About this Kit

This Lesson Plan Kit has been designed for Council staff or other educators to use in conjunction with the *Fairfield City Council Catchment Model*; at the Nalawala Sustainability Hub, during incursions with local schools or at Council and community events. The lessons are structured so that they can be tailored to different audiences and are suitable for both adults and children.

The Kit contains instructions on how to deliver education in an engaging way that ultimately leads to a more 'aware' and 'resilient' community. The resources have been designed to be easy to use and refer back to, with step by step instructions, simple scripts and clearly defined learning outcomes.

Purpose

The purpose of this kit and using the catchment model to educate our community is to ensure that our community understand, support and are able to participate in pro-environmental behaviours, that work towards improving water quality and care for our catchments. Fairfield City catchments are vulnerable to flooding and we also want to ensure that our education program improves the flood preparedness and resilience of our community.

How have the lessons been organised?

The lesson plans have been designed to fit with the *Fairfield City Council Education Program* (Figure 1).

Essentially these lessons are designed to be learner-driven. That is, the delivery style is interactive, beginning most often with a question to the audience, so that the audience lead the direction of dialogue around the model.

The catchment model can be used to educate the community about many different things and by focusing on a learner driven style will ensure the community are engaged and the content is tailored to their level of understanding and interest.

The use of support resources (props and cards etc.) will help the educator coordinate the interaction with the model, ensuring the learners are involved in the lessons but also helping to preserve the life of model.

Figure 1.

Fairfield City Council Catchment Education Program

July 2019 – July 2020

Why do we need a catchment education program?

We need a catchment education program to address local water pollution issues and build resilience for our community in flood emergencies. Our program will help to meet the Theme 3 Environmental Sustainability Goals in the 2016 – 2026 Fairfield City Plan: “A sustainable natural environment; Environmentally aware and active community; and Environmental compliance standards are met”.

Our vision:

Fairfield City Council's Catchment Education Program will:

1. Increase our community's understanding and knowledge about creeks and waterways and functioning of natural and man-made systems; and
2. Increase our community's care and valuing of natural assets.

Our mission:

Increased engagement

More people in Fairfield City will be interested and participating in catchment education.

Increased knowledge

Education participants will report an increase in their knowledge about catchment issues and processes

A shift in attitudes

People will report a new perspective about local catchments and Councils stormwater management initiatives

To Initiate action

People will commit to and report on increased pro-environmental behaviours (reduce littering, pick up dog poo, report pollution, prepare for flood emergencies etc.)

Our approach:

Our program will deliver interactive lessons using our catchment model and support resources to adults and children, at the Nalawala Sustainability Hub, at incursions with local schools and at Council and community events.

How will we measure success?

We will measure the impact of our education program using qualitative and quantitative methods including;

- Number of community events and school incursions
- Number of giveaways distributed (stickers, kids activity booklets, brochures etc.)
- Number of people reached through marketing of the program
- Number of website hits /you tube film views
- Summary data collected from participant evaluation sheets
- Case studies of catchment action of participants
- Number of pollution incidents reported per year
- River health indicator grades/ year
- Number of people reporting flood preparedness

Figure 2 shows how the lessons have been grouped to enable the educator to adjust and tailor the materials to a wide variety of audiences, in a range of situations.

Figure 2: Grouping of Lesson Plans



Three important components to the lessons include the **key message**, **themes** and the time available to deliver the lesson.

The **Key Message** is represented as a symbol on each lesson plan. The symbols provide a snapshot as to whether the lesson is primarily knowledge building, attitude shifting or directing action.

Each lesson fits within a set **Theme**. The Themes include; introduction to the model, water quality, littering, riparian biodiversity, place, flood preparedness, catchment care, support lessons, formal structured lessons.

The **Time** available to deliver each lesson will vary. Lessons 1 – 24 are single concept lessons. These lessons are all approximately 2 minutes. These single lessons can be grouped to create 5 – 10 minutes lessons. Lessons 25 – 27 are formal structured lessons and run for 30 minutes but could be extended to 1 hour. More details about lesson times and sequences is outlined below.

Lessons 1 – 24: Each single lesson can be delivered in a 2 minute window. This provides

flexibility so that when the model is on display at a community event, passerby audiences may want a quick interaction with the educator and only stay attentive for a single concept or single focused engagement.

There are also multiple lessons under the same theme, for example if the educator wanted to focus on water quality, multiple mini lessons (e.g. *Lesson 3: Leaf litter + Lesson 4 Dog poop + Lesson 5 Washing the car etc.*) could be delivered in sequence, to demonstrate the concepts and actions associated with protecting water quality in local catchments. The intent is that these can be grouped for a 5 – 10 minute interaction. Similarly if the intent is to ‘build flood preparedness skills and community resilience’, a focus on the lesson plans under those themes could be delivered (*Lesson 17 History + Lesson 18 Actions + Lesson 19 Council solutions /house raising*). NOTE: You will most likely need to use the ‘Introduction’ lesson/s in conjunction with your chosen theme. For example, in order to understand’ flood risk and flood behavior’, audiences will have to understand some basic catchment concepts (Lesson 2).

Lessons 25 – 27: If you have a captive audience, for example a school group for a structured one hour lesson, or you are a guest speaker at a community group, then there is more opportunity to conduct a sequence of single lessons and cover multiple themes, to secure multiple learning outcomes. For example, you could extend the learning associated with the model to be more comprehensive so that you walk away confident that the audience has understood a range of concepts and will participate in specific catchment actions as a result of their learning.

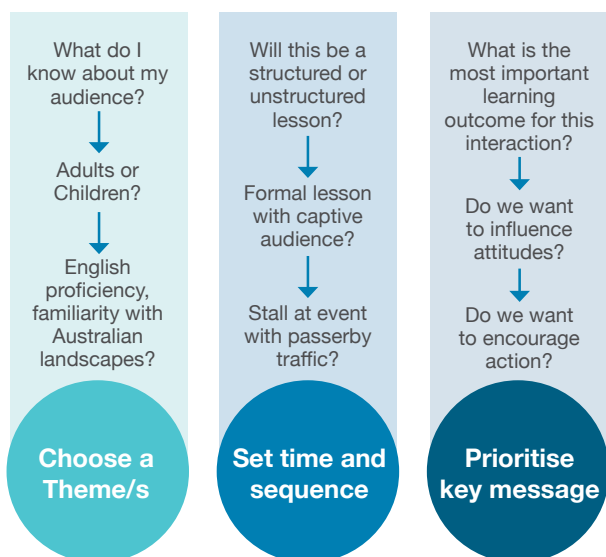


How do I prepare for a Lesson?

When you receive a booking for an educational session with the catchment model, try and gain as much information as possible about the audience and the venue where you will be delivering the lesson. This will help you to prepare and tailor your lesson to ensure you get the outcomes you need.

You can ask the following three questions shown in Figure 3, to help inform the structure and content of your lesson.

Figure 3: Questions to ask at booking to prepare for your lesson



Once you have information about the venue and your audience go to the **Quick Reference Guide – Lesson Plans Table**. This Table will help you to select and prepare your resources and equipment, including giveaways and evaluation sheets. Most lessons include an instructional video to show how to demonstrate the feature on the model.

NOTE: Instructions for the actual set up and maintenance of the catchment model are contained in a separate document.

The Importance of Action over Knowledge to Address Environmental Problems

It has long been understood that getting people to change what they do is the only way to influence the impact of human activity on the environment.

The purpose in developing this environmental

education kit is to ultimately improve environmental condition. We want to be able to say that as a result of this education program we are working towards the following environmental outcomes:

- A decrease in litter collected in GPT's across Fairfield City;
- A decrease in water pollution incidents in Fairfield LGA;
- An increase in water quality condition reported in 'River Health Georges River Report Card';
- An increase in self-reporting that community are flood prepared and resilient.

In order to meet these outcomes we need to ensure that our audience don't just walk away with an increased knowledge or attitude change. We want to make sure they walk away with a commitment and the capacity to take action in response to what they have learnt.

It is highly recommended that each lesson delivered includes at least one 'direct action'. If in each lesson we include a direction for a simple behaviour or action (such as entering the SES Emergency number into our iphones; or making a commitment to pick up after our dog) it will help us to build local community capacity, local ownership, and create a catalyst for new community-driven environmental initiatives that will help to protect our waterways now and into the future.

Tips for Educators

If you are a catchment expert – Use your area of expertise as a focus theme in each lesson. Check to make sure technical language and concepts are understood by your audience. Talk with experienced educators on your team for tips to engage your audience and re-shape messages that are confusing or too high level.

If you are an education expert – Use your engagement skills to improve basic lesson plans. Check to make sure that you use technically correct language when required. Talk with technical experts to learn more about local catchment initiatives to include in the story-telling with your audience.

The following tips are for 'first time' environmental educators:

- *Respect your audience* – encourage two-way dialogue so that you can learn from your audience as well as teach them. The community can surprise you with fascinating anecdotes about local history and important observations of local places and connect you with local community champions.
- *Relax* – make your lesson fun and take your time, it's the quality not the quantity of information you provide when you are interacting with community.
- *Be flexible* – be ready to adjust your content to suit the audience interest level and pace.
- *Be optimistic* – some people have never had the chance to learn or be exposed to environmental issues and more often than not, people will be willing to improve their behaviour and help protect our environment.

- *Practice makes perfect* – the more experience you have with community, the more readily you will anticipate questions, know your preferred style of delivery (dynamic or reflective) and the best ways to keep your audience engaged.
- *Report back* – After each lesson spend some time reflecting on what went well, what was tricky or challenging and how you might adjust your lesson next time.

Evaluation

Please remember to collect data to report back to Council after you deliver each lesson. This will help Council staff evaluate the education program to justify investment and expenditure, as well as provide evidence that the education delivered is effective and of value. Two simple templates are included below to assist with evaluation: Educator Evaluation Template and a Participant Evaluation Template.



Educator Evaluation Template:

Describe Event and Audience:
Insert Event Photo:
Number of people:
List number of giveaways distributed:
Feedback:
Include quotes from participants, observations and anecdotes.
Name of educator:
Role/Title:



Participant Evaluation Template:

Please fill in the survey to help us report on our education program and improve this workshop.			
Gender:	Age:	Language/s:	Suburb:
What did you think of the workshop?			
Did you enjoy the workshop? Please tick		<input type="checkbox"/> YES	<input type="checkbox"/> NO
Do you think we could improve this activity?		<input type="checkbox"/> YES	<input type="checkbox"/> NO
How?			
Please tick all relevant statements in the list below:			
The workshop helped me to:			
<input type="checkbox"/> Understand catchment issues affecting our waterways			
<input type="checkbox"/> Understand how flooding happens and flood risks in my local area			
<input type="checkbox"/> Encouraged me to do something different to protect our waterways (wash car on grass, pick up dog poo etc.)			
<input type="checkbox"/> Understand more about what affects our waterways (pollution, natural and man-made systems)			
<input type="checkbox"/> Know that I can join others to improve water quality (Bushcare, rain gardens, report pollution)			
<input type="checkbox"/> Feel more confident that I am prepared for a flood emergency (aware and prepared with SES Home Emergency Plan, Evacuation Kit etc.)			
<input type="checkbox"/> Please list anything you will do differently as a result of this workshop.			
What was the most important thing you learnt and why?			
What will you do now as a result of this workshop?			
Other comments:			

Quick reference guide table lesson plans

Lesson	Theme	Resource	Description	Code
1	Introduction - About the catchment model	Model	Catchment Model – NOTE: THE CATCHMENT MODEL IS USED IN ALL LESSONS	Model
2	Introduction - Basic catchment concepts	Prop	Salt Shaker to simulate fresh and salt water waterways	PRO 1
		Prop	Dolphin to simulate rives lead to the ocean	PRO 2
		Prop	Watering Cans to simulate rainfall	PRO 3
		Prop	Spray bottle to simulate rainfall	PRO 4
		Support	Sand tray to simulate the shape and meander of natural waterways	SUPP 1
		Video	INSTRUCTIONAL VIDEO: This is the top of the model this is the start of the catchment at Wetherill Park industrial area. Water flows downstream to Lansvale area and the Georges River.	VID 1
3	Water Quality - Leaf Litter and blocked drains	Card	Person sweeping leaves to demonstrate leaf litter blocking gutters and drains and causing localised flooding	CAR 1
4	Water Quality - Dog poop	Card	Picking up dog poo to demonstrate pro-environmental behaviour	CAR 2
		Prop	Pepper grains to simulate dog poo or litter on the model	PRO 5
		Prop	Dog poop bag to demonstrate pro-environmental behaviour	PRO 6
		Video	INSTRUCTIONAL VIDEO: Dogs in yard that's not fenced. Noone picks up poo so runoff causes pollution	VID2
5	Water Quality - Washing the car	Card	Person washing car on the grass to simulate pro-environmental behaviour	CAR 3
		Video	INSTRUCTIONAL VIDEO: Car washed on driveway causes runoff of detergent straight into the creek.	VID 3
6	Water Quality - Industrial areas	Prop	Clay to simulate soil erosion on the model	PRO 7
		Prop	Dye to simulate oil, petrol and chemicals on the model	PRO 8
		Video	INSTRUCTIONAL VIDEO: Lansvale industrial area on Prospect Creek and Georges River and shows where chemicals and oil can spill. One property has a sump (which catches pollutants) and bunding to contain spills. Auto wreckers with impervious surface, concrete batching plant shows how oil and pollutants can discharge straight into the creek.	VID 4
7	Water Quality - Rural land uses	Video	INSTRUCTIONAL VIDEO: Rural area shows cattle on the creek causing erosion. Compare this to the fenced and vegetated creek keeping cattle out of the catchment and reducing pollution.	VID 5
8	Water Quality - Construction sites	Video	INSTRUCTIONAL VIDEO: Construction site. Swap site with no controls to one which has sediment and erosion control, uses silt fence and vegetation to stop run off entering the creek.	VID 6
9	Littering	Sticker	Bring your water bottle to foster pro-environmental behaviour	GIV 1
		Laminate	Diagram of GPT to demonstrate function	LAM 1
		Prop	Plastic Bottles in GPT to demonstrate human impacts	PRO 9
		Video	INSTRUCTIONAL VIDEO: Gross pollutant trap and end of line pipeline and net.	VID 7
		Video	INSTRUCTIONAL VIDEO: GPT underground connects to carpark and collects gross pollutants (litter). Across Fairfield City there are 40 GPTs which are cleaned quarterly.	VID 8
		Video	INSTRUCTIONAL VIDEO: Stormwater pit connects directly to creek line from roadway to demonstrate how litter thrown from cars enters the waterways.	VID 9
10	Riparian Biodiversity - Terrestrial	Card	Person birdwatching to demonstrate benefits of biodiversity, ecosystem services (birds pollinate, disperse seed, clean up dead animals and inspire artworks)	CAR 4
		Prop	Fishing Bat Toy to demonstrate benefits of biodiversity, ecosystem services (fishing bats eat 600 mosquitoes per hour)	PRO 10
		Video	INSTRUCTIONAL VIDEO: Exotic plants in gardens (red trees) can be dispersed downstream causing weed invasion. Yellow tree is threatened species	VID 10
11	Riparian Biodiversity - Aquatic	Prop	Frog to demonstrate sensitivity of animals to pollution (frogs breathe through their skin)	PRO 11
		Prop	Stork to demonstrate sensitivity of animals to pollution (food chain, storks eat frogs, also waterbirds follow drought and flood across Australia, demonstrate ephemeral wetlands)	PRO 12
		Prop	Turtle to demonstrate sensitivity of humans to flooding (turtles can go on land and water, humans can't)	PRO 13
		Prop	Duck to demonstrate sensitivity of animals to pollution (littering is a physical threat to ducks)	PRO 14
		Prop	Dragonfly to demonstrate sensitivity of animals to pollution (there are over 300 different species of dragonfly in Australia. They are like butterflies and have a larval stage under water)	PRO 15
		Video	INSTRUCTIONAL VIDEO: Rain garden on the street helps control run off. Frog pond in backyard needs to be careful??	VID 11

Lesson	Theme	Resource	Description	Code
12	Place - Aboriginal Values	Prop	Cobra Grub is the aquatic worm that local aboriginal people, the Cabrogal people ate.	PRO 16
13	Place - New Australians - Water in Australia	Laminate	World Map to invite participates to share experience with waterways in other countries	LAM 2
		Laminate	Chain of ponds in Australia and mountain peaks in Iran to show water is different in different landscapes	LAM 3
14	Place - New Australians - Where do the pipes go?	Prop	STP sign – flushing toilet symbols to demonstrate what to put in the toilet and water conservation	PRO 17
		Video	INSTRUCTIONAL VIDEO: Sewage Treatment Plant uses recycled water to treat sewage. Water travels along the baffles to allow time for the water to be treated and then released back into the creek. Some of the water is uses on the golf course for irrigation of the greens.	VID 12
		Video	INSTRUCTIONAL VIDEO: Recycled water treatment and golf course irrigation	VID 13
15	Place - Local landmarks on the model	Video	INSTRUCTIONAL VIDEO: Shows Bonnyrigg Town Centre Park and Detention Basin C. There are water quality and ornamental ponds and an outlet. Also shows bank stabilisation and 2 concrete channels representing Orphan School Creek and Clear Paddock Creek merging.	VID 14
		Video	INSTRUCTIONAL VIDEO: Shows Waterside Crescent Carramar - Prospect creek meanders here and in high flows floods overland. Council offered voluntary purchase (bought houses and knocked them down) to create open space parkland to reduce risk to life.	VID 15
		Video	INSTRUCTIONAL VIDEO: Chipping Norton Lakes and Liverpool Golf course where Georges River and Prospect Creek converge. Also shows golf course which uses irrigation from the creek.	VID 16
16	Systems - Natural and man-made	Laminate	Natural and man-made channels	LAM 4
		Video	INSTRUCTIONAL VIDEO: Car park rain garden, spongy material and vegetation treat runoff before entering the creek	VID 17
		Video	INSTRUCTIONAL VIDEO: Prospect Reservoir outlet discharges to the underground system	VID 18
		Video	INSTRUCTIONAL VIDEO: House beside creek has impervious surface, stormwater pit, potted plants on driveway. When it rains run off enters the creek. Swap houses to one with porous paving and vegetation buffer to see no runoff entering the creek.	VID 19
		Video	INSTRUCTIONAL VIDEO: Wetherill Park Industrial area has no room to do creek rehabilitation. The development is right up to the top of the concrete channel so this area cannot be returned to a naturally meandering creek line.	VID 20
17	Flood Preparedness - History	Laminate	Newspaper articles to show impact of flooding on local residents	LAM 5
		Support	DVD of 1988 Floods	SUPP 2
		Video	INSTRUCTIONAL VIDEO: Floods the model by coming up from creek during heavy rain as well as flooding overland. When both sub catchments flood it can flood across the roadway.	VID 21
18	Flood Preparedness - Actions	Prop	Example of Flood Evacuation Route Map	PRO 19
		Prop	Example of Flood Emergency Kit	PRO 18
		Prop	SES Hotline number for emergency help in floods and storms	PRO 20
19	Flood Preparedness - Council solutions/ house raising	Laminate	House raising fact sheet	LAM 6
		Video	INSTRUCTIONAL VIDEO: Council and State government offer financial support for house raising scheme. Single story house in flood zone can participate in house raising scheme to be elevated above the 1:100 year flood level.	VID 22
20	Catchment Care - Rain gardens	Card	Person building rain garden to demonstrate pro-environmental behaviour	CAR 5
		Laminate	Diagram to show how vegetation filters sediments and pollutants	LAM 7
21	Catchment Care - Bushcare	Brochure	Bushcare to encourage pro-environmental behaviour	GIV 2
22	Catchment Care - Citizen Science/ pollution reporting	Card	Person testing water/catching bugs to demonstrate citizen science/ pro-environmental behaviour	CAR 6
		Brochure	EPA Hotline Brochure to encourage reporting pollution and littering to demonstrate pro-environmental behaviour	GIV 3
		Prop	Water testing kit to demonstrate citizen science/ pro-environmental behaviour	PRO 21
23	Support Lessons - Waterbugs	Laminate	Streamwatch Chart /catching bugs to demonstrate citizen science/ pro-environmental behaviour	LAM 8
24	Support Lesson - Stormwater Audit	Laminate	Stormwater Audit Form to citizen science/ pro-environmental behaviour	LAM 9
25	Schools	Brochure	Creeks in Trouble Brochure; 5 Creeks Facts and Figures; Food Web in Orphan School Creek; Fish in Orphan School Creek; 5 creeks share a vision (map of catchments);	GIV 4
26	Young Children	Brochure	8 page kids activity book	GIV 5
27	Adults	Brochure	St Elmos Drain GPT; Prospect Creek Floodway; all Creek Restoration and Flood Mitigation brochures	GIV 6

Section 2 Lesson plan list

Lesson	Theme	Title
1	Introduction	About the catchment model
2	Introduction	Basic catchment concepts
3	Water Quality	Leaf Litter and blocked drains
4	Water Quality	Dog poop
5	Water Quality	Washing the car
6	Water Quality	Industrial areas
7	Water Quality	Rural land uses
8	Water Quality	Construction sites
9	Littering	Littering
10	Riparian Biodiversity	Terrestrial
11	Riparian Biodiversity	Aquatic
12	Place	Aboriginal Values
13	Place	New Australians - Water in Australia
14	Place	New Australians - Where do the pipes go?
15	Place	Local landmarks on the model
16	Systems	Natural and man-made
17	Flood Preparedness	History
18	Flood Preparedness	Actions
19	Flood Preparedness	Council solutions/house raising
20	Catchment Care	Rain gardens
21	Catchment Care	Bushcare
22	Catchment Care	Citizen Science/pollution reporting
23	Support Lessons	Waterbugs
24	Support Lesson	Stormwater Audit
25	Formal Structured	Schools
26	Formal Structured	Young Children
27	Formal Structured	Adults



Increased Knowledge



A shift in attitudes



Initiate action



Script

Lesson 1

About the catchment model

Theme: Introduction

 *“What can you see?”*



Facts

- Catchments are the area of land from which rainwater drains into a common point such as a reservoir, pond, lake, river or creek.
- Creeks in Fairfield City flow into the Georges River and Hawkesbury-Nepean Catchments along a length of 80km in eight major creek lines.
- An artist created this model using 3D printing.

Steps

1. Ask the audience what features they can see on the model. Listen for cues to identify the audiences experience and literacy level relating to catchment concepts. Participant answers will lead the direction and level of story-telling.
2. Explain this is a model of real places in Fairfield City to show what happens when it rains.

Learning Outcomes

- Participants understand what a catchment is and what happens to water when it rains.
- Participants understand this a conceptual model of Fairfield.

KIT CODES: MODEL



Lesson 2

Basic catchment concepts



Theme: Introduction



“When it rains does water flow uphill or downhill? Is it fresh or salt water?”

Facts

- Rain falls on land and flows downstream into our creeks and rivers which flow into the ocean.
- Water drains or flows from the surface of the land (surface run-off) or from water that flows between soil and rock beneath the earth’s surface (groundwater). In urban areas such as Fairfield, the majority of the rainwater is collected by gutters and pipes and then flows through stormwater drains into the stormwater system.
- The Hawkesbury-Nepean Catchment to the west is fed by the South Creek Sub-Catchment consisting of South Creek, Eastern Creek and Ropes Creek and the Georges River Catchment to the south and in the east fed by the sub-catchments of Prospect Creek and Cabramatta Creek.
- Pollution affecting water quality includes litter, heavy metals, batteries, pesticides, cleaning agents such as car wash, herbicides, detergents, oils and other chemicals which can be fatal to plants and animals living in our waterways.

Steps

1. Watch the Interactive video to familiarize yourself with the catchment model features used to demonstrate this concept. You will demonstrate this feature during the lesson.
2. Ask participants to choose or prop, or hand out props to establish a structured interaction with the audience.
3. Show an aerial photo of Fairfield City. Point out how natural rivers meander as water travels downstream to the ocean. Ensure the audience understand basic geomorphology concepts.
4. Show the Georges River Catchment Report Card Map. Explain that rain falling across Fairfield City flows into two river systems and these rivers flow to the ocean. Pollution can enter the water and affect animals, plants and human health.
5. Use the dolphin prop and the tidal flushing to demonstrate the link to the ocean. You can also use the salt shaker to demonstrate salty water. You can ask the audience “How long do you think it takes if we put a small boat in the creek here (in current location) until it ends up in Sydney Harbour/the ocean? Ask the audience if they support the plastic bag ban at Coles and Woolies and if they understand that plastic can kill marine life. Generally audiences are aware of this fact but do not often make the link with local waterways.

Learning Outcomes

- Participants understand what a catchment is.
- Participants understand that when rain falls on land it travels to the ocean.
- Participants understand what they put in the creek in Fairfield reaches the ocean.

KIT CODES: PRO 1,2,3,4; SUPP 1; VID 1



Lesson 3

Leaf litter and blocked drains



Theme: Water Quality

“What does your card show”?

Facts

- Garden debris can build up in stormwater drains in the street or at your house. Drains can clog from sediment, leaves or tree roots which can lead to flooding even in light rain.

Steps

1. Ask participants to choose or prop, or hand out props to establish a structured interaction with the audience.
2. Ask the person with the leaf litter card what they can see. Show the litter traps on the model and the storm water drains in each street to explain the concept of localized flooding.

Learning Outcomes

- Participants understand that they can prevent blockages (localized flooding).

KIT CODES: CAR 1



Lesson 4

Dog poop



Theme: Water Quality

“Can dogs pick up their own poop?”

Facts

- Dog waste is cited as the 3rd or 4th largest contributor of bacterial pollution in urban watersheds.
- Dog faeces have higher phosphorous concentrations than found in cow and swine manure.
- Nitrogen, found in dog urine, also causes contaminated runoff and leads to serious water quality issues.
- Dog faeces contained an average level of bacteria of 50 million CFU/gram.
- Diseases or parasites that can be transmitted from pet waste to humans include: Campylobacteriosis , Cryptosporidium, Toxocariasis, Toxoplasmosis.
- Dogs remain the most popular type of pet in Australia with almost two in five households (3.6 million) owning a dog. There was an estimated dog population of 4.8 million in 2016; 20 dogs for every 100 people. The dog population rose slightly from 2013 to 2016 by approximately 600,000.
- The average dog produces approximately 3/4 pounds of poop every day. 1,000 dogs will produce 750 pounds of excrement a week.
- Anyone over 16 can be fined for not picking up after their dog.
- The fine for not picking up dog poo is \$880.

Steps

1. Watch the Interactive video to familiarize yourself with the catchment model features used to demonstrate this concept. You will demonstrate this feature during the lesson.
2. Ask participants to choose or prop, or hand out props to establish a structured interaction with the audience.
3. Ask the person with the dog poo card what they have on their card. Get them to guess how many people have pet dogs in Australia and to imagine how much poop that equates to.
4. Explain the water quality impacts from dog poo entering waterways.
5. Explain the risk of fine if you don't (especially if audience is 16 years or over).
6. Ask participants to raise their hands if they own a dog and would be prepared to sign a pledge to pick up.

Learning Outcomes

- Participants understand how human behaviour can cause water pollution.
- Participants are empowered to take simple actions to reduce pollution.




KIT CODES: CAR 2, PRO 5,6; VID 2

Lesson 5

Washing the car



Theme: Water Quality

 ***“Do you have a car?
Where do you wash the car?”***

Facts

- Run off, including detergent, can be harmful to wildlife e.g. Frogs breathe through their skin.
- Run off, including detergent, can be harmful to waterways and affect plant life (providing increased nutrient and increased algal blooms).

Steps

1. Watch the Interactive video to familiarize yourself with the catchment model features used to demonstrate this concept. You will demonstrate this feature during the lesson.
2. Ask participants to choose or prop, or hand out props to establish a structured interaction with the audience.
3. Ask the person with the car wash card what they have on their card.
4. Ask the audience if they own a car and where they wash the car? Demonstrate on the model using the dye that when we wash the car the detergent enters the stormwater system and ends up in the creek.
5. Ask the person with the frog prop to put it on the nearest creek to the car. Explain that frogs breathe through their skin. Do the audience think it's healthy or unhealthy for frogs to be in water with detergent and why?
6. Ask the audience to pledge to wash their car on the grass.

Learning Outcomes

- Participants understand how human behaviour can cause water pollution.
- Participants are empowered to take simple actions to reduce pollution.

KIT CODES: CAR 3; VID 3




Lesson 6

Industrial areas



Theme: Water Quality

 ***“What do you think about oil, petrol and chemicals going into our creeks? Is it healthy or unhealthy? Why?”***

Facts

- In North Shore City in the United States, over 12,000 kilograms of dirt and over 75,000 litres of chemical detergent enter into the water supply every year. North Shore City is ¼ the size of the Fairfield LGA.
- As Fairfield City develops, the area of hard, impervious surfaces increases and the area of vegetation decreases, reducing absorption and increasing the volume and velocity of water entering our creeks after rain.

Steps

1. Watch the Interactive video to familiarize yourself with the catchment model features used to demonstrate this concept. You will demonstrate this feature during the lesson.
2. Ask participants if they have ever had a spill on their kitchen bench, the spill will spread across the bench and onto the floor unless you block it with a sponge or cloth. Explain that this is the same process that industrial businesses such as mechanics, factories, manufacture ring businesses that store and use chemicals apply on their premises. Show example photo.
3. Ask participants if they need further information for businesses to help them to manage spills and improve their corporate social responsibility and environmental stewardship of their business. Explain there are award programs for businesses that act responsibly.

Learning Outcomes

- Participants understand how human behaviour can cause water pollution.
- Participants are empowered to take simple actions to reduce pollution.

KIT CODES: PRO 7, 8; VID 4




Lesson 7

Rural land uses



Theme: Water Quality

 ***“Have you seen this happening in Fairfield or other places? What do you think about how our land use has changed? Do you think rural land uses or urban land uses have a greater impact on catchments? Why?”***

Facts

- Erosion caused by animals drinking from riverbanks can increase the amount of sediment entering local waterways. This can kill fish and aquatic plants, cause algal blooms and increase maintenance costs for Council and property owners.

Steps

1. Watch the Interactive video to familiarize yourself with the catchment model features used to demonstrate this concept. You will demonstrate this feature during the lesson.
2. When you demonstrate the fenced and vegetated section of creek line invite participants to initiate these strategies on their own land or assist Council in managing parks and reserves through volunteering with Bushcare.

Learning Outcomes

- Participants understand how they can improve water quality and ecosystem services in their community.

KIT CODES: VID 5



Lesson 8

Construction sites



Theme: Water Quality



“Have you ever wondered why some building sites have little blue fences around them? Did you know that if you see sediment escaping construction sites you can report pollution.”

Facts

- Sediment entering storm water drains can cause blockages, creating localized flooding on roadways (unsafe for cars), property flooding, increase mosquitos and increase weed invasion.
- Sediment from construction can also enter local waterways and kill fish and aquatic plants and animals, cause algal blooms and increase maintenance costs for Council and property owners.

Steps

1. Watch the Interactive video to familiarize yourself with the catchment model features used to demonstrate this concept. You will demonstrate this feature during the lesson.
2. Ask participants if they need further information for businesses to help them to manage spills and improve their corporate social responsibility and environmental stewardship of their business. Explain there are award programs for businesses that act responsibly.

Learning Outcomes

- Participants understand how humans can cause water pollution.
- Participants are empowered to take simple actions to reduce pollution.

KIT CODES: VID 6



Lesson 9

Littering



Theme: Littering



“What can you see in this picture? What is the most common type of litter in the GPT? What would be your solution to this problem?”

Facts

- More than 100 tonnes of litter is removed every year from the suite of stormwater quality improvement devices located throughout the City.
- More than 1,000,000 plastic bottles end up in Fairfield’s creek every year.
- In 1999/2000 around 28 tonnes of rubbish was removed from Fairfield’s Orphan School Creek.
- St Elmos GPT had 16 tonnes of litter removed in the first 9 months. This is equivalent to nearly 2 full garbage trucks of litter per month.
- Report dumped rubbish to Council on 9725 0222.
- Plastic drink bottles make up the largest portion of litter entering waterways and can take up to 400 years to breakdown.
- Litter and plastics entering the stormwater drain in the street will travel to the ocean in less than 48hours.
- 100% of seabird chicks have been found with plastic in their gut.

Steps

1. Watch the Interactive video to familiarize yourself with the catchment model features used to demonstrate this concept. You will demonstrate this feature during the lesson.
2. Ask the audience about the different things they can do to prevent littering in their neighborhood. For example; participate in Clean Up Australia Day, phone Council to collect rubbish, in schools initiate a litterbug campaign to name and shame litterbugs, report littering from cars to the EPA, for school and community events ensure stall holders don’t sell water and remind people to bring their own drink bottle.
3. Hand out giveaway stickers “remember your drink bottle” and encourage all audience members to make a pledge to reuse their drink bottles and refill from the tap instead of buying disposable water bottles. NOTE: For CALD community explain that Sydney Water drinking water is safe to drink from the tap.
4. NOTE: For enthusiastic learners also show the GPT diagram and explain how litter is collected and the different types of the traps.

Learning Outcomes

- Participants understand how humans can cause water pollution.
- Participants are empowered to take simple actions to reduce pollution.

KIT CODES: GIV 1; LAM 1; PRO 9; VID 7, 8,



Lesson 10

Terrestrial



Theme: Riparian Biodiversity



“Did you know that there are heaps of special animals and plants in Fairfield City? And that by having good biodiversity in our neighborhood actually helps human wellbeing as well?”

Facts

- Orphan School Creek is home to a variety of fish, native animals and birds (known as fauna) as well a native trees and bush (known as flora).
- Orphan School Creek is known as an “endangered ecological community”: it is under threat from surrounding urban development and activity.
- There are more than 80 bird species recorded in the Orphan School Creek area.
- There are more than 17 different species of native fish at Orphan School Creek.
- Plant life along the banks of Orphan School Creek includes species from the Sydney Coastal River Flat Forest and the Cumberland Plain Woodland. The Sydney Coastal River Flat Forest is listed as an endangered ecological community under the Threatened Species Conservation Act 1995.
- Biodiversity provide many ecosystem services to humans including; providing oxygen and clean air, clean water, is the source of our food and medicines. Biodiversity also inspires us in art and literature and in better understanding ourselves and our relationships with others.
- Fishing Bats forage along creeks in Fairfield and are a threatened species. They can eat up to 600 mosquitoes an hour and provide a great ecosystem service to us. Many microbats live in tree hollows, caves and crevices along the riverbank.

Steps

1. Watch the Interactive video to familiarize yourself with the catchment model features used to demonstrate this concept. You will demonstrate this feature during the lesson.
2. Ask participants to choose or prop, or hand out props to establish a structured interaction with the audience.
3. Ask the person with the toy bat what sort of animal it is and to guess where they live. Explain how fishing bats fly low over water and catch tiny fish and insects with their feet. Ask participants how they feel at the thought of pollution entering the feeding grounds of these little bats. What sort of impact might that have on them and us?
4. What can we do about it? NOTE: If audience is age appropriate <12 hand out giveaway kids activity booklet.

Learning Outcomes

- Participants understand the value of ecosystem services and the importance of conserving biodiversity to help protect our waterways.
- Participants are empowered to take simple actions to conserve biodiversity.

KIT CODES: CAR 4; PRO 10; VID 10



Lesson

11

Aquatic



Theme: Riparian Biodiversity



“Guess how many different types of dragonfly there are in Australia? Did you know that dragonflies are like butterflies and metamorphose? They have an underwater larval phase.”

Facts

- There are several significant wetlands in the ponds within the Prospect Creek catchment: Warren Road, Woodpark (a constructed wetland); Gipps Road Park, Smithfield; De Freitas Wetland at Vine Street, Fairfield; Clarevale Wetland on Edensor Creek (Clarevale Street, Edensor Park), Lake Mirambeena (Lansdowne) and Lake Gillawarna (Georges Hall).
- The natural habitat for aquatic creatures, like fish, has been greatly reduced because land clearing with the branches and leaves that were once in the water providing essential food sources and nutrients, are no longer present and able to perform this vital function. Logs also shelter fish from fast flowing waters and predators, and are very important for their survival.
- A survey of a 50 metre section of Orphan School Creek, between the suburbs boundary of Fairfield and Canley Vale, revealed a diversity of habitat for various species of fish. Eight different types of fish habitat were observed:
 - **Deep pool** with rocks, logs, weeds and gravel bed
 - **Small pool** with logs and a mud bottom
 - **Raised weed bed** with littered logs and rocks, gravel and a cut channel
 - **Riffle zone** with rocks, a few logs and gravel underneath
 - **Rock shelves** with shallow, flat areas and drop off points
 - **Small pool** with undercut banks, rocks, logs, with a rock shelf and gravel bottom.
 - **Open areas** with a gravel bed lined with logs, rocks and weeds
 - **Inter-tidal zone** with rocks, swamp plants, and a sandy mud bottom

Steps

1. Watch the Interactive video to familiarize yourself with the catchment model features used to demonstrate this concept. You will demonstrate this feature during the lesson.
2. Ask participants to choose a prop, or hand out props to establish a structured interaction with the audience.
3. Ask people to place the duck, stork, turtle, dragonfly and frog on the model in the appropriate habitat. Share stories about these animals and what they might symbolize in relation to the catchment.

Learning Outcomes

- Participants understand how human behaviour can impact catchment health and biodiversity.
- Participants are empowered to take simple actions to conserve biodiversity.

KIT CODES: PRO 11,12,13,14,15; VID 11



Lesson 12

Aboriginal values



Theme: Place

 *“Have you ever heard of a cobra grub?”*

Facts

- Aboriginal people are the oldest living culture in the world (60 000 years old).
- Cobra Grub is a type of freshwater worm, and was eaten by the local Aboriginal people “the Cabrogal’ people.

Steps

1. Acknowledge traditional owners and elders past and present. Explain that aboriginal people have an important relationship with country. Our Australian landscapes hold meaning and is are our life blood.
2. Ask participants to choose or prop, or hand out props to establish a structured interaction with the audience.
3. Explain that the Cobra Grub is a type of freshwater worm, and was eaten by the local Aboriginal people “the Cabrogal’ people. Ask the audience to reflect on how aboriginal people are the oldest living culture in the world (60 000 years old) and how they have interacted and influenced the environment.
4. NOTE: For CALD community invite them to share cultural stories around waterways in other countries.

Learning Outcomes

- Participants understand how humans can cause water pollution.
- Participants are empowered to take simple actions to reduce pollution.

KIT CODES: PRO 16




Lesson 13

New Australians water in Australia



Theme: Place

 ***“Australia is a dry country. We have ephemeral water (floods and droughts). What were the rivers and waterways like in your country or when you were a child?”***

Facts

- Many Australian waterbirds only breed in wetlands and rivers with changing water levels, including pelicans and ibis.

Steps

1. Ask participants to choose or prop, or hand out props to establish a structured interaction with the audience.

Learning Outcomes

- Participants understand how humans can cause water pollution.
- Participants are empowered to take simple actions to reduce pollution.

KIT CODES: LAM 2, 3



Lesson 14

New australians where do the pipes



Theme: Place



Facts

- When it rains, some stormwater is collected from your roof, driveways or paved and landscaped areas. It flows over land, or through the pipes and drains, to the existing public stormwater system and into our creeks.
- Council owns and maintains a large stormwater network across the LGA. These include:
 - Gross pollutant traps (GPTs)
 - Trash racks
 - Trash booms
 - Stormwater pits, grates, letter box grates, etc.
 - Drainage swales
 - Creeks, rivers and detention basins
- Everyday over 10 000 cotton buds have to be removed from one sewage treatment plant in western Sydney because people dispose of them incorrectly.
- Many personal hygiene products contain microplastics (microbeads or particles less than 5mm). Scientists have found that toxins bound to ingested microplastics are actually transferred into the animals that ingest them.

Steps

1. Ask participants to choose or prop, or hand out props to establish a structured interaction with the audience.

Learning Outcomes

- Participants understand how humans can cause water pollution.
- Participants are empowered to take simple actions to reduce pollution.

KIT CODES: PRO 17; VID 12,13



Lesson 15

Local landmarks on the model



Theme: Place



***“Can you recognize any local places?
Imagine if you were a bird flying over Fairfield
City what could you see?”***

Facts

- Prospect Creek and Cabramatta Creek Catchments have some of the poorest water quality in western Sydney (Grade D, E and F in the ‘River Health’ Georges River Report Card).
- Different land uses across Fairfield City (rural, industrial and residential) produce pollutants that impact on water quality.
- Land can be managed to reduce water pollution and flooding.
- Some of the creeks (and drainage lines) in the catchment do not permanently carry water, and only flow after rain or storms.
- During the 1960s, the creeks began to suffer from stormwater pollution, uncontrolled sewerage and industrial waste. Many creeks were replaced by concrete channels and the natural playgrounds disappeared. Now we realise that the creeks are more than drains: they are important to preserving the environment and enrich community life.

Steps

1. Watch the Interactive video to familiarize yourself with the catchment model features used to demonstrate this concept. You will demonstrate this feature during the lesson.
2. Water flows from Wetherill Park at the top of the catchment to the Lansvale area into the Georges River.
3. Show the Georges River Catchment Report Card Map.

Learning Outcomes

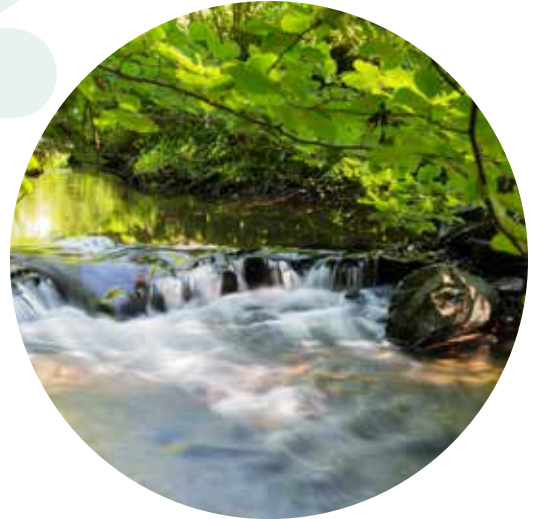
- Participants understand what a catchment is.
- Participants understand that when rain falls it enters the storm water system.

KIT CODES: VID 14, 15, 16



Lesson 16

Natural and man made



Theme: Systems



“Can you spot the difference along the creek here? What can you see?”

Facts

- Orphan School Creek covers a distance of approximately 12 kilometres.
- The upper and lower reaches of Orphan School Creek are natural waterway, with the middle reach changes from a piped system to a concrete-lined channel.
- Orphan School Creek as two major tributaries (branches): Clear Paddock Creek and Green Valley Creek. St Elmos Drain, is a concrete lined channel for 500 metres, then piped for 500 metres, followed by a one kilometre stretch of natural waterway to its meeting with Orphan School Creek.

Steps

1. Watch the Interactive video to familiarize yourself with the catchment model features used to demonstrate this concept. You will demonstrate this feature during the lesson.

Learning Outcomes

- Participants understand how humans can cause water pollution.
- Participants are empowered to take simple actions to reduce pollution.

KIT CODES: VID 17,18,19,20



Lesson

History

17



Theme: Flood Preparedness

 ***“Do you know when the last big flood occurred in Fairfield City?”***

Facts

- Prospect Creek Floodway constriction in 2002 works to reduce flooding in Burns Creek by

Steps

1. Watch the Interactive video to familiarize yourself with the catchment model features used to demonstrate this concept. You will demonstrate this feature during the lesson.
2. NOTE: If time and equipment is available show the Flooding DVD to participants.

Learning Outcomes

- Participants understand how humans can cause water pollution.
- Participants are empowered to take simple actions to reduce pollution.

KIT CODES: LAM 5; SUPP 2; VID 21



Lesson 18

Actions



Theme: Flood Preparedness

 ***“Have you checked the map? Could it flood in your neighborhood? What could you do now to prepare for a flood?”***

Facts

-

Steps

1. Watch the Interactive video to familiarize yourself with the catchment model features used to demonstrate this concept. You will demonstrate this feature during the lesson.
2. Ask participants to choose or prop, or hand out props to establish a structured interaction with the audience.
3. Watch the 1988 Flood DVD and ask audience to reflect on the experiences of the people in the video.
4. Ask them to put the SES Hotline number into their phones now.

Learning Outcomes

- Participants understand how humans can cause water pollution.
- Participants are empowered to take simple actions to reduce pollution.

KIT CODES: PRO 18,19,20



Lesson 19

Council solutions/house raising



Theme: Flood Preparedness

 ***“Guess how much Council has spent on providing improvement to flooding?”***

Facts

- Council’s Creek Care Program encompasses creek cleaning, re-vegetation, weed control and bush regeneration of more than 60 different sites across the City, including along our riparian corridors and wetlands, parks and reserves.
- The program involves professional bush regenerators, community group volunteers, school students, and Council staff.
- Council’s Stormwater Levy allows an additional \$1.2 million a year to be dedicated to significant stormwater-related environmental projects. Funds spent each year are reported in Council’s annual report, separately from the rest of Council’s budget. The Local Government Act provides councils with the ability to implement a program of major improvements to stormwater management, funded by a Stormwater Levy.
- Council’s database ranks projects on the basis of hazard. A summary of the criteria follows and is listed in descending order of priority:
 - Situations where house floor levels are inundated or public safety is at risk
 - Situations where out-buildings are inundated
 - Situations where the property is inundated (yard flooding)
 - Situations which cause a nuisance, such as long term maintenance problems
- The State Government has also directed Council to develop and implement a catchment-based Stormwater Management Plan (SMP). Guidelines for the ranking in the SMP were developed by the State Government agency responsible for administering the development of the Stormwater Management Plans. This SMP is used to rank and prioritise stormwater management strategies along with Council’s existing database of stormwater drainage requirements.
- Priority 5 - Cleaner Environment Community Strategic Plan
- 2016 – 2026 City Plan

Steps

1. Watch the Interactive video to familiarize yourself with the catchment model features used to demonstrate this concept. You will demonstrate this feature during the lesson.

Learning Outcomes

- Participants understand how humans can cause water pollution.
- Participants are empowered to take simple actions to reduce pollution.

KIT CODES: LAM 6; VID22



Lesson 20

Rain gardens



Theme: Catchment Care

“Have you heard of a rain garden?”

Facts

-

Steps

1. Watch the Interactive video to familiarize yourself with the catchment model features used to demonstrate this concept. You will demonstrate this feature during the lesson.
2. Ask participants to choose or prop, or hand out props to establish a structured interaction with the audience.

Learning Outcomes

- Participants understand how humans can cause water pollution.
- Participants are empowered to take simple actions to reduce pollution.

KIT CODES: CAR 5; LAM 7



Lesson 21

Bushcare



Theme: Catchment Care



“Would you like to join in to protect our catchments local plants and animals?”

Facts

-

Steps

1. Watch the Interactive video to familiarize yourself with the catchment model features used to demonstrate this concept. You will demonstrate this feature during the lesson.

Learning Outcomes

- Participants understand how humans can cause water pollution.
- Participants are empowered to take simple actions to reduce pollution.

KIT CODES: GIV 2



Lesson 22

Citizen science/pollution reporting



Theme: Catchment Care



“Did you know that anyone can be a scientist and help look after our creeks?”

Facts

- Water quality is monitored at various sites along selected waterways creeks along the 80km of creek corridors in Fairfield City. The results of the Water Quality Monitoring Program identify priority projects and works. Details of the water quality sampling are reported in Council’s State of the Environment Report.
- Over 390 people a year report pollution in the Blacktown area alone, incidents include fish kills, sediment from fill, coloured dyes and chemicals.
- School students in Parramatta were so concerned about the amount of plastic water bottles ending up in the local creek they banned the sale of plastic water bottles in their canteen and pledged to bring their drink bottles to school each day.
- A young girl in the United States was so concerned about oil spills affecting local wildlife she did a drawing or painting of a bird every day after school and raised \$100 000 for clean-up.
- A majority of people, 71%, say they are concerned about the environment ‘Who Cares about the environment survey 2012 ‘.

Steps

1. Watch the Interactive video to familiarize yourself with the catchment model features used to demonstrate this concept. You will demonstrate this feature during the lesson.
2. Ask participants to choose or prop, or hand out props to establish a structured interaction with the audience.

Learning Outcomes

- Participants understand how humans can cause water pollution.
- Participants are empowered to take simple actions to reduce pollution.

KIT CODES: CAR 6; GIV 3; PRO 21



Lesson 23

Waterbugs



Theme: Support Lessons



“Did you know that anyone can be a scientist and help look after our creeks?”

Facts

-

Steps

1. Ask participants to choose or prop, or hand out props to establish a structured interaction with the audience.

Learning Outcomes

- Participants understand how humans can cause water pollution.
- Participants are empowered to take simple actions to reduce pollution.

KIT CODES: LAM 8



Lesson 24

Stormwater audit



Theme: Support Lessons



“Did you know that anyone can be a scientist and help look after our creeks?”

Facts

-

Steps

1. Ask participants to choose or prop, or hand out props to establish a structured interaction with the audience.

Learning Outcomes

- Participants understand how humans can cause water pollution.
- Participants are empowered to take simple actions to reduce pollution.

KIT CODES: LAM 9



Lesson 25

Formal structure schools
lesson plan



Theme: Catchments



“School Lesson Plans have a slightly different format to single lessons.”

Facts

- School Lesson Plans have a slightly different format to single lessons.
- Teachers will be using the catchment model and interpreting the content slightly differently because they deliver the lesson within a unit of work, contextualized for each school.
- We provide the range of information to them and they will adapt and focus the content back in the classroom accordingly.
- The educator should work with the school prior to the incursion to determine the focus areas or themes to include in the catchment model lesson. All themes could be covered within each session with students and could be run in sequence e.g. Lesson 1 to Lesson 22. The framework for the lesson with students would be the same as the single concept lessons, ensuring that cards and props are distributed at the start of the lesson and the students participate in interacting with the model when their prop or card comes up.
- A general approach to a formal, structured lesson with schools would be expected to run for 1 hour. This time would include a whole group introduction to the model, Council and what the school has learnt already about catchments. Then the educator would split the class into groups depending on the number of students (NOTE: a maximum of 15 students per session with the catchment model is recommended. The smaller the group size the better quality the lesson). Each group would rotate around two or more support lessons. For example; group 1 would run through the catchment model while group 2 do a waterbug support lesson, then each group would swap. The length of the support lessons are adaptable and can be taught in 15 minute – 30 minute blocks.
- Tips for First Time Educators – For more great resources on engaging your audience and managing nerves, group dynamics, questioning techniques etc. please see www. (adapted from Facilitator Training Manual).

Steps

- 1.

Learning Outcomes

-



Lesson 26

Formal structure young children



Theme: Catchments

 ***“School Lesson Plans have a slightly different format to single lessons.”***

Facts

- OOPTION: Work with preschools to create a picture book of the catchment model for young children as a story to read and enact with them. For example this could be a school holiday activity at Council’s library.

Steps

1.

Learning Outcomes

- Participants understand how humans can cause water pollution.
- Participants are empowered to take simple actions to reduce pollution.

KIT CODES: GIV 5



Lesson 27

Formal structure adults



Theme: Catchments

 ***“Adult Lesson Plans have a slightly different format to single lessons.”***

Facts

- Adult Lesson Plans have a slightly different format to single lessons.
- The educator should work with the school prior to the incursion to determine the focus areas or themes to include in the catchment model lesson. All themes could be covered within each session with adults (University students, Clubs, Church Groups etc.) could be run in sequence e.g. Lesson 1 to Lesson 22. The framework for the lesson would be the same as the single concept lessons, ensuring that cards and props are distributed at the start of the lesson and the audience participate in interacting with the model when their prop or card comes up.
- A general approach to a formal, structured lesson with schools would be expected to run for 1 hour.
- **Tips for First Time Educators** – For more great resources on engaging your audience and managing nerves, group dynamics, questioning techniques etc. please see www. (adapted from Facilitator Training Manual).

Steps

1.

Learning Outcomes

- Participants understand how humans can cause water pollution.
- Participants are empowered to take simple actions to reduce pollution.

KIT CODES: GIV 6



Lesson 28

Basic lesson plan:



- Welcome participants. Acknowledge traditional owners and explain importance of connection to country.
- Ask “What can you see?” “What is this?” Invite participants to participate in a respectful manner. TIP: Initiate hands up/turn taking for behaviour management. TIP: This will give you an indication of the baseline level of understanding. Can they recognize landscape features? Do they know correct terminology of features? Do they conceptually understand this is a model of a catchment?
- Explain that we will be telling the story of places in Fairfield. This model is based on real places in Fairfield City. Do they know the names of local places? Have they seen any creeks? TIP: This will connect people to place. TIP: This will provide an indication of general connection to environment, experience outdoors, environmental stewardship.
- Hand out laminated cards and/or props for participants to place on the model when called. Explain that these people will be part of telling the story. TIP: behaviour management, reward those that are quiet, cooperative etc.
- Allocate others to provide the ‘rain’ add water.
- Use the allocation of cards, animals and rain to invite people to participate in the story. The order of activities does not matter.
- The aim is this is a two-way, interactive, experience. There are a lot of concepts.