Georges Riverkeeper

Teacher Resource: TOPIC STARTER

SCIENCE

Stage 3 Material world

We use water daily in our homes, schools, businesses and community.

We can all use water more efficiently through different behaviours, technologies and systems.

Module 10

Water...WOW! Module

Water Solutions

GEORGES RIVER ENVIRONMENTAL EDUCATION CENTRE

SCIENCE Stage 3 Material world

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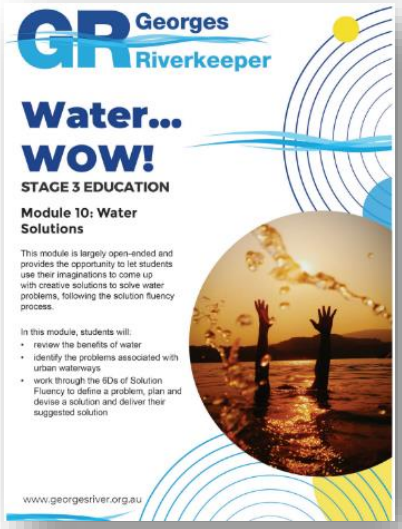
Module 10

This resource supports the Georges Riverkeeper Stage 3 Education Module 10: Water Solutions

Outcome: Plans and uses materials, tools and equipment to develop solutions for a need or opportunity. ST3-2DP-T

Focus Question: This module is largely open-ended and provides the opportunity to let students use their imaginations to come up with creative solutions to solve water problems, following the solution fluency process.

Learning Intentions: I can identify problems associated with waterways and the urban water cycle. I can work through the 6Ds of Solution Fluency to define a problem, plan and devise a solution and deliver the suggested solution.



Success Criteria: I can identify a water problem at home or school. I can use the 6Ds to create a solution to a local water issue. I created a digital nature poster.

Overview: Water is at the core of the UN Sustainable Development Goals Number 6 Clean Water and Sanitisation and is critical for socio-economic development, energy and food production, healthy ecosystems and for human survival itself. As the global population grows, there is an increasing need to balance all of the competing demands on water resources so that communities have enough for their needs. At the human level, water cannot be seen in isolation from sanitation. Together, they are vital for reducing the global burden of disease and improving the health, education and economic productivity of populations (source).

The 6Ds of solution Fluency

The 6Ds of Solution Fluency are an essential system for building problem-solving prowess and strong critical thinking capacity. These 6Ds are Define, Discover, Dream, Design, Deliver, and Debrief.

1. Define: What is the problem that we face? (defining the problem or challenge)
2. Discover: What's causing the problem, and why do we need to solve it? (investigate and research the background of the problem)
3. Dream: What does the ideal solution look like? (consider the problem and develop a solution to it)
4. Design: How will we create our solution? (plan the initial framework for the solution)
5. Deliver: What will the production process look like? (the actual development stage of the task)
6. Debrief: Did the solution suit the purpose and the audience? (reflection on learning process and relevance of content, processes, skills or techniques) (source)

The importance of water in Sydney's future

Cities like Sydney must provide exceptional urban places to attract and sustain investment, and support productive, vibrant communities. A water sensitive approach to urban water planning and management is emerging as global best practice.

Information and Photo source.

Water as a resource and Creating Solutions

We can all use water more efficiently through different behaviours, technologies and systems.

Georges Riverkeeper

Reducing pollution, water as a resource

Pollution prevention is a shared responsibility and there are regulations in place to help prevent pollution from entering the waterways. Have a look at this Georges Riverkeeper fact sheet to find out more about what is being done.

Water sensitive urban design is also an important part of understanding and planning for water in our community. Watch this short Vimeo Water sensitive urban design and consider ways that you could include these designs at your home, school or in the community.

Photo source.

ACTIVITY 1: Make a list of the problems associated with water in your school.

Did you know that schools in greater Sydney use about 7,790 million litres of water a year? Water at school is used for things like: drinking water from bubblers, preparing food in the canteen and kitchens, washing hands, watering the garden and flushing toilets.

Not all uses for water are problems. However, simple steps can be taken to save water and reduce water wastage. (source)

ACTIVITY 2: Choose ONE problem from Activity 1 undertake a planning and design process to find a solution to the process.

Using the 6Ds of Solution Fluency (Define, Discover, Dream, Design, Deliver, and Debrief: do a web search for more information and find that which best suits your class) students undertake a planning and designing process to find a solution to their identified problem.

Photo source.

View the video Poop and Paddle: An Eco-Friendly Floating Toilet to stimulate the thinking process of designing a solution to a problem.

ACTIVITY 3: Make a Digital Nature Poster

Students are tasked with creating awareness of water use and water saving within their school, homes or community.

Firstly, take a photo of nature in the area that you want to increase awareness of. Then, come up with a slogan or caption that will get your point across. Finally, print and place your poster up for all to see. Can you be a social influencer?

Georges Riverkeeper

www.georgesriver.org.au

Learning about our river **Water...WOW!** Modules

These are free water education resources for teachers and students about water in the Georges River catchment in South Sydney, and more generally, in Australia. These education modules have been prepared for Stage 3 in primary schools.

They cover facts for kids about drinking water, water uses, the water cycle, water pollution, water conservation, rainfall, drought, floods, aquatic food webs, and how to measure water conditions using waterbugs, plus much more.

www.georgesriver.org.au/learn-about-the-river/schools

There are many different stakeholders and landowners in the Georges River Catchment who all have a responsibility to manage their land in a way that ensures there is a minimal impact on the river and its ecosystems.

Georges Riverkeeper's Members:

Bayside Council – Serving Our Community

Campbelltown

Canterbury Bankstown

FairfieldCity – Celebrating diversity

Georges River Council

Liverpool City Council

Sutherland Shire Council

Wollondilly Shire Council

Georges Riverkeeper's Partners:

NSW Government – Justice

National Parks & Wildlife Service

Georges Riverkeeper acknowledges the Traditional Owners and Custodians of the Georges River, the Kamegal, Bedigal, Cabrogal, Cannemegal, Gweagal and Norongerral people of the Eora, Dharug and Dharawal nations and we pay our respects to their Elders past, present and future.

These modules have been prepared in association with

GEORGES RIVER ENVIRONMENTAL EDUCATION CENTRE

www.georgesriv-e.schools.nsw.gov.au