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A CD-ROM of these resources is available from:

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Water: Learn it for life!

A comprehensive water education program for Queensland early to middle years school teachers and students.

An initiative of the Queensland Department of Natural Resources and Water.

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••• Foreword

One of the most significant issues facing us in Queensland today is ensuring we have adequate, secure water supplies for the future.

An increasing population, the recent drought, and the impact of climate change all mean we need to rethink the way we manage and use our available water supplies, particularly in urban areas.

Water: Learn it for life! is an education program for early to middle years students to build awareness and understanding of the importance of having secure water supplies for the future.

The program is a long-term, comprehensive, whole-of-school approach to water education. It complements a range of other Queensland Government initiatives encouraging efficient use of water; initiatives such as the South East Queensland Water Grid, desalination, water recycling and water planning, all of which aim to secure Queensland's future water supplies.

The program will be a valuable resource for early to middle years teachers in Queensland, complementing the existing curriculum framework for those age groups. It encourages long-term behavioural change in students by teaching them that their actions can make a difference, and by engaging them and parents/carers in water conservation activities at school and at home.

It acknowledges that young people can often lead the way to new attitudes and behaviours, and that they can be catalysts for change in the broader community.

Craig Wallace

Minister for Natural Resources and Water and
Minister Assisting the Premier in North Queensland

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Background Information for Teachers

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Years 4–5 units

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Overview

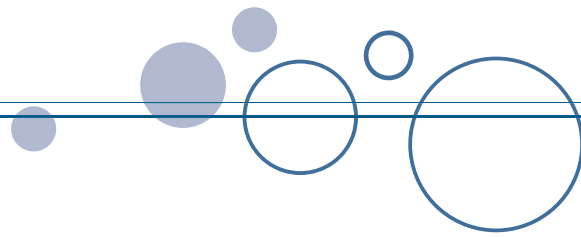
Water: Learn it for life! is an education program targeting early and middle years school children in Queensland. It provides teachers with resources that offer an engaging program of lesson plans, activities, background research materials and multi-media tools. The materials include the key elements of water education for these years: the water cycle, sources, storage, conservation and efficiency of use of water, plus the new aspects of water recycling and alternative water sources.

Water: Learn it for life! is designed to build student awareness and understanding of water as a significant environmental issue that impacts our lives locally, nationally and globally. The program brings into focus the issues faced in Queensland and around the world as countries seek to secure their water future, and provides opportunities for students to explore where water comes from, how it is used, and how to use it responsibly.

Water: Learn it for life! engages students in a multitude of activities and learnings in which they are encouraged to reach out to their families and the broader community about the important role that everyone can play in valuing and conserving water resources. This education program raises awareness of the value of water as a resource that requires careful management and use to ensure a secure supply now and in the future. Given this, it is imperative that, through education programs such as *Water: Learn it for life!*, students develop an understanding of how their actions impact on the availability of water, and that they are supported and encouraged to adopt greater individual and community responsibility for its sustainable use.

The program's whole-of-school approach seeks to integrate an environmental perspective not only into the curriculum but also across the organisation and operation of the whole school. It endeavours to engage students, teachers, administrative and ancillary staff in reorienting the whole school towards sustainability.

For more information about the program and resources available, go to:
<www.nrw.qld.gov.au/waterwise/education>.



❖ About this curriculum resource for teachers

This teachers' curriculum resource is the key component of the *Water: Learn it for life!* education program. It enables teachers to provide meaningful learning opportunities for students to examine their own attitudes and behaviours towards water use and conservation. It provides detailed lesson plans, activities and background reference and support materials to offer a comprehensive whole-of-school approach to learning about water.

Significantly, the resource has been designed to align with the Queensland Curriculum, Assessment and Reporting Framework (QCAR) Essential Learnings and Standards being introduced across all Queensland schools in 2008. It encompasses Essential Learnings that fall primarily within the Science and Studies of Society and the Environment (SOSE) Essential Learnings, but also provides opportunities to link to the English and The Arts Essential Learnings. Importantly, the lesson plans and activities incorporate quality assessment tasks which can be used for reporting to parents.

This resource facilitates teaching and learning aimed at promoting a deeper understanding of water and its importance in our lives. Students are encouraged to adopt and promote waterwise practices through an action-oriented approach to learning.

Written by teachers for teachers, *Water: Learn it for life!* aims to make a teacher's life easier by providing a resource that is highly practical and in line with current teaching and learning practices.



❖ Structure

The curriculum materials in this resource package have been organised into four separate year-level groupings: Preparatory to Year 1, Years 2 to 3, Years 4 to 5, and Years 6 to 7. Each of these groupings comprises one or two units of sequenced lessons and activities.

The curriculum materials are supported by comprehensive *Background Information for Teachers*. This gives teachers all the information they need to confidently deliver the lessons and activities in the package, regardless of the year level.

The ‘Primary Connections 5Es Teaching and Learning’ model (Australian Academy of Science, 2005) has been used as a framework to organise and structure the lessons within each unit. This model recognises that teaching and learning progresses through five phases: Engage, Explore, Explain, Elaborate, and Evaluate (Bybee 1997). An additional component has been added to this model to encourage students to take action as a result of their learning. This extended model offers a robust scaffold to inspire students’ curiosity and to build on their interests and knowledge.

Each unit in the package contains the relevant Essential Learnings along with assessable elements and a student assessment task. Key concepts that underpin the unit are also outlined.

» Unit outline and description

Prep to Year 1	Unit 1	Introduction to ‘My friend Whizzy’
Years 2 to 3	Unit 1	Wonderful water. (Adapted from <i>Water works: A Primary Connections</i> unit (Australian Academy of Science, 2005))
	Unit 2	Whizzy’s Waterwise experts
Years 4 to 5	Unit 1	Water windows – yesterday, today and tomorrow
	Unit 2	Waterwise ambassadors
Years 6 to 7	Unit 1	Water journeys
	Unit 2	Drinkable water

» Preparatory to Year 1

Introduction to 'My friend Whizzy'

The Prep to Year 1 unit has been written to engage children in meaningful hands-on experiences, both indoors and outdoors, within the five contexts for learning and development set out in the Early Years Curriculum Guidelines (Queensland Studies Authority 2006). The five contexts for learning are:

- play
- real-life situations
- investigations
- routines and transitions
- focused learning and teaching.

Whizzy's Incredible Journeys—Pick-a-Path book is one of the core foundations for the lesson plans and activities.

» Years 2 to 3

Unit 1: Wonderful water

Adapted from *Water works: A Primary Connections* unit (Australian Academy of Science, 2005).

This unit provides opportunities for students to develop an understanding of, and an appreciation for, a precious natural resource. Through investigations, students explore how water is used, where water comes from, and how to use it responsibly.

Unit 2: Whizzy's Waterwise experts

In this unit of work, students use information posters to communicate their understanding of a water use issue. Displaying these posters in a prominent community location helps students see that they do have a voice, and that small actions can have larger beneficial consequences.

Again the supporting resource *Whizzy's Incredible Journeys—Pick-a-Path* book is a key component of the activities in these units.

» Years 4 to 5

Unit 1: Water windows—yesterday, today and tomorrow

The focus of this unit is on the sustainable use of water in communities. Students investigate how the understanding of water as a precious and finite resource has changed over time in their local area. They explore changes in land use around local water sources, and changes in attitudes towards the sustainable management of water resources in their local area.

Students have the opportunity to use the visual arts to communicate changing patterns of water use in their local area across a number of generations.

Unit 2: Waterwise ambassadors

This unit explores how local action can have global consequences, even if it starts with something as commonplace as a dripping tap. Students conduct a school water audit and make recommendations to the school administration.

» Years 6 to 7

Unit 1: Water journeys

In this unit, students investigate where our water comes from and where it goes. They examine their own and their family's water use, and identify ways in which they can use water more efficiently. They undertake a design challenge to create a promotional product, such as a magazine advertisement or digital media product, for the Waterwise marketing campaign targeting the home.

Unit 2: Drinkable water

Students explore water issues in developing countries before investigating how drinking water is treated. They conduct a school water audit and make recommendations to the school administration.



❖ How to use this resource

Water: Learn it for life! comprises a series of integrated units that offer a broad range of teaching strategies and approaches. Each unit incorporates a sequence of lesson plans and activities for students. The lesson plans may also be used as stand-alone units.

The materials have been designed to provide enough detail to enable an early career teacher to understand the teaching and learning strategies and deliver the units with confidence. Equally, they provide the experienced teacher with an updated package of lesson plans and activities that align with the new curriculum framework. The units can be readily adapted for use in a school's existing curriculum.

Water: Learn it for life! is intended for use in classrooms throughout Queensland. While the materials have a statewide focus, teachers are strongly encouraged to incorporate local content into lessons and activities. Ideas about how to do this can be found in the 'Linking locally' section in each of the year level units.

When using this resource, teachers are encouraged to look for opportunities to profile and celebrate students' work and learning outcomes. This is an excellent way to promote long-term positive behavioural change.

Water: Learn it for life! is intended to be a flexible resource that will grow over time and improve through feedback and contributions from the education community. Teachers are encouraged to provide feedback to the Waterwise team with suggestions for enriching content. Please access the website <www.nrw.qld.gov.au/waterwise/education> and select the relevant link.

❖ Additional resources

The *Water: Learn it for life!* program offers a range of other resources for teachers, educators and students.

» *Whizzy's Incredible Journeys* —Pick-a-Path book

In addition to being a curriculum resource, the new edition of the book *Whizzy's Incredible Journeys* (Pick-a-Path book) is an excellent and versatile classroom resource that enables Early Years teachers to use narrative fiction to engage students in learning about water conservation and the water cycle. Comprising a series of three separate journeys, the book invites students to accompany Whizzy the water drop on adventures that are both fun and informative.

This resource has been specifically designed and published in big book format so teachers can undertake focused learning opportunities with the whole class. The large book size allows teachers to use appropriate illustrations for lessons on key Waterwise and water cycle topics.

This book plays a major role in introducing to children in the early years the Waterwise message and key water science concepts. Through engaging text, and magical and detailed illustrations, teachers can use this resource to develop key concepts from the Queensland Studies Authority's Early Years Curriculum Guidelines, and the Science and SOSE Essential Learnings.

The middle and upper primary lesson plans in this curriculum resource incorporate *Whizzy's Incredible Journey*— as a tool to investigate government strategies for delivering the Waterwise message. Teachers can use this book with students as a model and stimulus to plan strategies to deliver their own Waterwise messages within their families, schools and communities.

» Resource bank for teachers

The *Water: Learn it for life!* website hosts additional on-line water education resources in the Resource bank for teachers.

Arranged into year-level groups, these resources include:

- lessons
- activities
- ideas
- fact sheets
- links to other resources.

An annotated list of recommended water education websites is also available.

» Accessing resources

All the *Water: Learn it for life!* program resources can be accessed via the web site: <www.nrw.qld.gov.au/waterwise/education>.



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