

The Water Show

Teacher Information



This program has been developed through a partnership between SA Water and the Department of Education and Children's Services. It has been based on the learning needs of students from R-7. In 2012, The Water Show is being presented by the Department for Water.

Participation in The Water Show provides an opportunity for students to interact with science concepts and gain some insight into water conservation. The program is supportive of the Australian Curriculum Cross curricular priority – Sustainability and the Science and Geography learning areas.

Australian Curriculum Science Descriptors:

- Everyday materials can be physically changed in a variety of ways (ACSSU018) yr1
- Earth's resources, including water, are used in a variety of ways (ACSSU032)yr2
- Changes to materials can be reversible, such as melting, freezing, evaporating; or irreversible, such as burning and rusting (ACSSU095)yr6
- Mixtures, including solutions, contain a combination of pure substances that can be separated using a range of techniques (ACSSU113)yr7
- Water is an important resource that cycles through the environment (ACSSU222)yr7

NOTE: Science as a Human Endeavour and the Geography Learning Area + Cross curricular priority of Sustainability are important aspects of this learning program.

Key concepts underpinning the program are:

- Water is a precious resource and essential for all life to exist
- Water resources exist within social and cultural contexts
- Water has unique physical and chemical characteristics
- Critical thinking and decision making skills
- Social responsibility
- Water must be considered in a global context (systems interacting)

About The Water Show by *Splash Theatre Company*

It is 100 years in the future and the world's water supply is in crisis. Two time travellers, Agent Smith and Agent Jones, return to the present to collect as much information as possible about this valuable resource.



Government of South Australia
Department for Water

Developed by Splash Theatre Company,
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Using the computer in their time-space module, they discover a wide range of information about water, including:

- Archimedes Principle
- The hydrological process of evaporation, condensation and precipitation
- Ocean life
- Images of water in popular culture
- Water treatment process
- Typical water use by suburban families
- Many other interesting facts about water



The content is presented through a wide range of engaging and accessible dramatic techniques including physical comedy, mime, character transformation, song, dance and sound.

The Water Show presents an overview of the role of water in our society and as such provides many opportunities for links to specific curriculum outcomes. The Lesson Suggestions outlined in these notes may assist teachers in extending the performance experience into meaningful classroom learning.

SPLASH THEATRE COMPANY **www.splashtheatreco.net**

Formed in 1997 Splash Theatre Company is an independent, professional touring company based in SA. Each year it stages 4 or 5 productions which tour to schools, arts centres, libraries, museums, festivals and community events. Its shows have toured throughout SA, Victoria, Tasmania, NSW, ACT and Queensland.

It has toured overseas to Russia, New Zealand and Singapore.

Its productions include: "The Book Show", "What BIG Teeth You Have!", "The King's New Suit", "Ticklish Allsorts", "Little Wing and Twinkletoes", "The Beginner's Guide To Pirates", "Mr Badger tells the story of The Wind in the Willows", "An Irish Joke", "And Their Ghosts May Be Heard" and "The Water Show".

FACTS ABOUT WATER

The following facts are mentioned in the performance:

- Water covers approximately 75% of the Earth's surface
- 97% of water is too dirty or too salty to drink
- 2% is in icecaps or glaciers
- Only 1% is available for us to drink
- Oceans are up to 5 times deeper than the tallest mountain
- Your body is made up of about 70% water
- Your brain is made up of about 90% water
- Water is the only substance present on Earth in it's 3 forms: liquid, solid, gas
- Ice is less dense than water, that's why it floats on top of your drink



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ARCHIMEDES PRINCIPLE

The Archimedes Principle refers to the Law of buoyancy, discovered by Archimedes, which states that any object that is completely or partially submerged in a fluid at rest is acted on by an upward, or buoyant, force.

The magnitude of this force is equal to the weight of the fluid displaced by the object. The volume of fluid displaced is equal to the volume of the portion of the object submerged.

Story: Archimedes and the Gold Crown

The King of Syracuse, Hiero, wanted a golden crown. He weighed a lump of gold and ordered a goldsmith to make him a crown with it. The goldsmith returned with a crown that weighed the exactly the same as the lump of gold. The king was happy. After a while, however, the king grew suspicious. The goldsmith might not have put all the gold into the crown. He might have used another metal. The king called Archimedes to help him determine whether any other metal had been mixed into the crown. Archimedes thought and thought, but he couldn't figure out a way to determine whether the goldsmith had melted silver into the crown. One day he went to the baths. As he got into the tub, some water sloshed out. He had solved his problem. Archimedes ran out into the street shouting "Eureka! Eureka!" He was so excited he had forgotten to put his pants on!

He demonstrated his experiment to the King. Archimedes filled a jar with water to the brim then dropped the crown in it and collected the water that overflowed. Then he replaced the water into the jar and dropped in a lump of gold the same weight as the crown. He found that the lump of gold caused less water to overflow than the crown. This meant that the crown occupied more volume, or space, than the lump of gold and proved that it was not all gold and that the King had been cheated.

FAST WATER FACTS

The Department for Water is responsible for leading the management of South Australia's most precious resource – water. We must use water wisely to ensure we have enough for our future.

- Reducing your shower time from 7 to 4 minutes can save up to 60 litres every time
- A running tap uses about 9 litres of water per minute
- Water saving fittings on your kitchen tap can reduce flows from 20 litres per minute to below 9 litres per minute
- A low-flow showerhead saves up to 11 litres of water per minute

Water is our most valuable resource. It's fundamental to our health, our way of life and our environment. It underpins growth in population and our economy – and these are critical to South Australia's future prosperity.

The Department for Water has a job which is of great importance to the people of our State. We aim to ensure that there are always sufficient and sustainable



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water resources in South Australia for our health, our economy, our environment and our lifestyle. No so that our State can just get by – but so our communities and economy can thrive in the future.

To find out more about the water sources in our state and how the Department for Water is working to ensure water for the future, visit www.waterforgood.sa.gov.au



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