

Year 6

Lesson 5

Being a Watersaver at school

Unit 2

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Learning objectives

Students will be able to:

- Record the uses of water throughout the school.
- Identify areas that use large volumes of water.
- Identify student and staff use of specific water facilities and determine their attitudes toward water conservation.

Learning outcomes

Subject	Strand & Content Descriptors
Science	Science as a Human Endeavour <ul style="list-style-type: none">• Scientific knowledge is used to inform personal and community decisions (ACSHE220)
Mathematics	Measurement and Geometry <ul style="list-style-type: none">• Convert between common metric units of length, mass and capacity (ACMMG136)• Connect volume and capacity and their units of capacity (ACMMG138) Statistics and Probability <ul style="list-style-type: none">• Interpret and compare a range of data displays, including side by side column graphs for two categorical variables (ACMSP147)
English	Literacy <ul style="list-style-type: none">• Participate in and contribute to discussions, clarifying and interrogating ideas, developing and supporting arguments, sharing and evaluating information, experiences and opinions (ACELY1709)• Plan, draft and publish imaginative, informative and persuasive texts, choosing and experimenting with text structures, language features, images and digital resources appropriate to purpose and audience (ACELY1714)

Important questions

- Why is it important to conserve water in the school?
- How much water is used annually, weekly, daily at the school?

Background information – school water audit

Part 2

A water audit provides essential baseline data that allows schools to establish strategies to reduce water use. There are many ways to establish water consumption in your school. For a clear understanding of water use undertake some water audits.



1. Locate the school's water bills for the last three years to provide an overview of seasonal variations and the cost of water consumption.
2. Conduct a water audit for four weeks by taking meter readings each morning and afternoon. The information will detail how much water is used on a daily basis and the average consumption per person in the school.
3. Identify indoor and outdoor water outlets and determine the flow rate for each type. This process identifies leaks, faulty equipment and the areas where the school uses the most water.

Data sheets to assist you with auditing are included in this resource kit.

Linking locally

Many of our local schools and businesses have implemented an array of water saving initiatives and are now prospering from environmental and economical benefits. An example is John Paul College.

Water conservation can be achieved by changing watering practices or through technological developments such as water timers and infrared urinals. Mulching (using organic matter such as straw or sugar cane to reduce evaporation) garden beds, improving oval irrigation and monitoring taps and bubblers can help save water.

John Paul College

John Paul College brought water efficiency to its 35-hectare Daisy Hill campus in 2006, soon following with energy and waste efficiency initiatives. The school has already reduced water consumption by 73%, energy consumption by almost 20% and waste by 35%—by establishing:

- 10 tank farms storing up to 500,000-litres
- a pool plant that recycles backwash water and minimizes chemical use
- efficient ways of managing sports fields, grass, gardens and vegetation
- waterless urinals, low-flow showers and water-off taps
- bores, ponds and waterways that manage storm-water and provide ecosystems
- 44 solar panels generating more than 12 megawatts/ year
- retrofitting and building projects to maximise building efficiency
- water and power management software platforms that help continually measure, monitor and minimise consumption—supported by a first-of-its-kind 3D model of the campus
- 60 recycling stations that feed into four for segregation, collection and off-campus reuse
- awareness and behavior modification programs across the campus and curriculum including integrated waterwise education, a 24/7 website promoting initiatives and resources, a student environmental council, and community awareness activities fostering responsible stewardship of scarce resources.



Lesson plan – school water audit

Introduce the concept of a water audit and ask students to identify the purpose of the audit and how data collected could be used.

Using **Activity sheet 15 ‘School water audit – water bills’** and the associated guidelines, determine tasks and focus areas for the students.

Follow the guidelines to record the number and type of water outlets in the school on **Activity sheet 15 ‘School water audit – water bills’**. Estimate flow rates where possible using Activity Sheet 16 ‘Determining flow rates’. Identify faulty equipment, such as leaking taps.

Plot and display the data using graphs or charts, using appropriate software and graphical representation. The presentation should identify how much water is consumed per week or by each person in the school and will help put the data in context.

Develop a survey to determine how staff and students use the various outlets.

Use this information to develop a water conservation program at school.

Resource requirements

- Map of the school
- Activity sheet 15 ‘School water audit’
- Activity sheet 16 ‘Determining flow rates’
- Student self evaluation sheet 2

Additional activities

Use **Activity sheet 13 ‘Water usage chart at home’** to record water use at home.

Plot and present this data to determine per capita and average domestic water use.

Leaking toilets can waste water. With the help of the grounds person or staff member place a few drops of food colouring in the cistern of the school toilets. If the colour appears in the bowl you have a leak.