

WATER SUPPLY DATA COLLECTION SHEETS

Knowing how much water your school uses is a crucial first step in knowing how sustainable your water use is. Collecting water supply data will help you work out if you are a high water use school and if you could take more action to conserve it.

To complete the Water of Life Summary you will need to either have records on how much your school pays for water supply, or have water meters on the water supply at your school so that you can monitor it yourself. You will find your reticulated water supply meter at your school gate. If you don't have one, contact your local council to find out how to get one installed. You should also have a meter on your rainwater tank and if possible on your swimming pool to help determine leakage.

This data collection sheet will work best where students and staff work together to investigate where to find this information and how to record it over a school year. Some of the information can be found in school office records and some will need to be monitored.

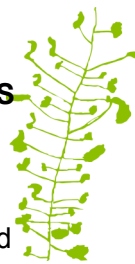
- If you pay for water and receive a statement showing how much you use, use the **Charged Water Supply** data collection sheet.
- If you don't have these records, use the **Reticulated and Rainwater Supply** sheet.
- Measurements are in cubic metres (m³), which are equivalent to kilo litres (kl).

Charged Water Supply:

Your school office will have records of how much water you use and how much you paid for it. Collect this data for the previous year and record below. It doesn't matter what day you start on as long as you collect data for a one year period. See Teacher Support Activity, **HOW TO READ A WATER ACCOUNT** for help recording these entries.

Measurement Period		Water Supply	
Actual billing period eg. 14 Aug – 15 Sep 2008	Consumption period days	Volume of water used m ³	Total water usage cost \$
TOTALS	days	m ³	\$
(equivalent to 365 days) ADJUSTED TOTALS		m ³ /yr	\$/yr

Transfer these TOTALS to the Water of Life Summary Sheet



Reticulated and Rainwater Supply:

You will need to set up a monitoring system to collect data for each year. Discuss the best way to measure your reticulated and rainwater supply every month or **perhaps once a term**. Record this information on the following sheets and keep in a central location. Once you have data for one year make the calculations and transfer to the **Water of Life Annual Summary**.

1. Record the date that you take your measurement. It doesn't matter if you start half way through the year, as long as you collect readings for a whole year.
2. Calculate the number of days since your last measurement.
3. Record the Water Meter reading. See **How to Read a Water Meter** teacher support activity for help.
4. Calculate the Actual Water Used. This is the difference between this reading and the last reading. You won't have an Actual Water Used figure for your first reading.
5. Divide each Actual Water Used reading by the corresponding Consumption Period to get your Average Water Used per Day.
6. Total the days in your Consumption Period and the total cubic metres of Water Used. Work out the Average Water Used per Day for your monitoring period.
7. Multiply this figure by 365 days to get your Annual Water Used (m³ /yr).
8. Transfer Annual Water Used (m³ /yr) to the Water of Life Summary Sheet.

Reticulated Water Supply

Base Period		Measurement Date - <i>when readings were taken</i> (dd/mm/yy)	Consumption Period - <i>days since last measurement</i>	This Reading - <i>water meter reading</i>	Actual Water Used - <i>difference between this and last reading</i>	Average Water Used per Day = <i>Actual ÷ Consumption period</i>
TERM 1	Jan					
	Feb					
	Mar					
TERM 2	Apr					
	May					
	Jun					
TERM 3	Jul					
	Aug					
	Sep					
TERM 4	Oct					
	Nov					
	Dec					
Total Consumption Period			days			
Actual Water Used (over measurement period)					m³	m³ /day
Annual Water Used = Average water used per day (m ³ /day) x 365						m³ /yr

Transfer this TOTAL to the Water of Life Summary Sheet



Rainwater Supply:

Base Period		Measurement Date - <i>when readings were taken</i> (dd/mm/yy)	Consumption Period - <i>days since last measurement</i>	This Reading - <i>water meter reading</i>	Actual Water Used - <i>difference between this and last reading</i>	Average Water Used per Day = $\text{Actual} \div \text{Consumption period}$
TERM 1	Jan					
	Feb					
	Mar					
TERM 2	Apr					
	May					
	Jun					
TERM 3	Jul					
	Aug					
	Sep					
TERM 4	Oct					
	Nov					
	Dec					
Total Consumption Period			days			
Actual Water Used (over measurement period)					m³	m³ /day
Annual Water Used = Average water used per day (m ³ /day) x 365						m³ /yr

Transfer this TOTAL to the Water of Life Summary Sheet

Rainwater Tank Volume:

Calculate the total capacity of the rainwater tanks at your school.

1. There might be a label on the tank to tell you how many litres of water it will hold.
2. You may need to work out capacity of the tank using volume calculations. For example, by working out the height and circumference of the tank you will be able to work out the volume using a volume of a cylinder calculation.
(Cylinder Volume = Area x Height) (Circle Area = $\pi \times r^2$).

Transfer the volume of your rainwater tanks to the **Water of Life Summary Sheet**.



WATER EFFICIENCY DATA COLLECTION SHEETS

Using water efficiently will help your school be even more sustainable in its use of water. Make sure you aren't wasting water through leaks and inefficient appliance. This is especially important with large users of water such as swimming pools, toilets and urinals.

To measure water efficiency, draw a map showing where all the water outlets are in your school. Include the swimming pool, toilets, urinals, showers, taps and drinking fountains. On this map identify which outlets have water saving devices installed and any that are leaking. Measure how much water the leaking outlets are wasting in a year.

The teacher support activities **How to Read a Water Meter**, **Location of Water Outlets**, **Little Drips Turn Into** and **Walk-Through Audit** will help you do this.

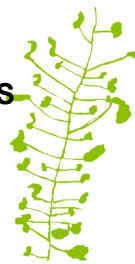
Leaks:

When collecting data for your **Water of Life Annual Summary**, take the time to check for leaks. If you find leaks, ask your caretaker to get them fixed. Check for leaks later in the year to make sure you are still a 'Leak Free' school. You'll be surprised at how much water you will have saved.

1. An overnight test will help you tell if you have leaks.
2. Ask your caretaker for help with this one as you will need to turn off all the appliances that automatically use water (swimming pool and urinals). Make sure that no-one in the school uses water overnight.
3. Read your water meter at the end of the day and then first thing the next morning.
4. Calculate the Actual Water Used (cubic metres - m³) and how many hours you measured for. Convert cubic metres per hour into cubic metres per day of water leaking.

Measurement Date			
		<i>Start Reading</i>	<i>Finish Reading</i>
Water Meter Reading			Actual Water Used (m³)
Time of Reading			Measurement Time (hours)
Total Annual Water Leakage			
Actual Water Used (m ³) / Measurement Time (hours) x (24 hours)			m³ /day

Transfer this TOTAL to the Water of Life Summary Sheet



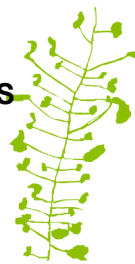
Swimming Pool:

A swimming pool is one of the highest consumers of water at your school. To keep an eye on how much water it uses and to help identify any leaks, it is best to have a water meter installed. Once you have a water meter, use the following sheet to record how much water the swimming pool uses. Remember, you may use more water at certain times of the year.

Swimming Pool Water Consumption

Base Period		Measurement Date - <i>when readings were taken</i> (dd/mm/yy)	Consumption Period - <i>days since last measurement</i>	This Reading - <i>water meter reading</i>	Actual Water Used - <i>difference between this and last reading</i>	Average Water Used per Day = <i>Actual ÷ Consumption period</i>
TERM 1	Jan					
	Feb					
	Mar					
TERM 2	Apr					
	May					
	Jun					
TERM 3	Jul					
	Aug					
	Sep					
TERM 4	Oct					
	Nov					
	Dec					
Total Consumption Period		days				
Actual Water Used (over measurement period)					m³	m³ /day
Annual Water Used = Average water used per day (m ³ /day) x 365						m³ /yr

Transfer this TOTAL to the Water of Life Summary Sheet



Toilets:

School toilets are another high user of water. In a co-ed school the girls' toilets will use more water than boys' toilets, due to boys having urinals as well as toilets. Modern dual flush toilets use less than half the water an average single flush toilet uses. Water saving flush devices such as a gizmo will also reduce water consumption.

If you found your school is leaking water when doing the data collection on Leaks, check your toilets and get them fixed. A simple way to check is to drop some dye into the cistern. If coloured water appears in the bowl before it has been flushed, you have a leak.

TOILETS	Number of all school toilets A	Number of dual flush toilets or fitted with water saving device B	Percentage of DUAL flush toilets $B + A \times 100$
Girls Toilets			
Boys Toilets			%
Unisex Toilets			%
TOTAL	no.	no.	%

Transfer these TOTALS to the Water of Life Summary Sheet

Urinals:

You can save a lot of water with the type of urinal that you use and how you are using it. Some urinals are set to flush every few minutes, every day regardless of whether they have been used or not. A better option is to have waterless urinals or urinals with automatic sensors so they only flush when someone uses it. Find out if your school has these types of urinal.

URINALS	Number of all school urinals A	Number of urinals with automatic sensors or waterless set-up B	Percentage of water efficient urinals $B + A \times 100$
TOTAL	no.	no.	%

Transfer these TOTALS to the Water of Life Summary Sheet

Showers:

Depending on the school, showers may or may not be a big water user. Either way, water can be conserved with efficient showerheads and sensible practices. On your school map showing the location of water outlets you will have marked your showers. Count up the total number of showers in the school. Find out if they are ever used.

Conduct a simple flow rate test on each shower to find out its efficiency. Count the number using less than 9 litres per minute. To calculate the flow rate hold a bucket under the shower for 1 minute. Measure the volume of water in the bucket.

SHOWERS	Total number of all school showers that are used A	Number of showers with flow rate <u>less than</u> 9 litres /minute B	Percentage of water efficient showers $B + A \times 100$
TOTAL	no.	no.	%

Transfer these TOTALS to the Water of Life Summary Sheet