

# Water: A Drop In The Bucket

**Water is life.** Water forms 97% of our bodies. Water covers vast parts of the earth. Without water, we would live only days. But where does water come from, how much water do we need, and how do we use and abuse water?

**Where Does Water Come From?** As a teacher, you are probably familiar with the science of the Hydrologic Cycle. Water vapour is given off by the evaporation of salt water from the ocean, the evaporation from lakes and streams and transpiration from plants. This evaporated water goes into the atmosphere where it remains as water vapour until it falls back to earth as condensation from the clouds, as precipitation either in the form of rain or snow. This water cycle then replenishes our lakes, streams and oceans, as well as helping to refill the underground aquifers and flow of groundwater.

But water is not a renewable resource! Although it can easily change form and location, there is only a fixed amount of water on Earth.



## How Much Water Is There? Water, water everywhere...

On Earth, water surrounds us. Water covers 72% of the earth's surface. But how much of this water can be used by people?

Oceans are 97% of world's water. But as we all know, salt water is unfit for drinking, irrigation, washing and/or industry. Therefore, the total amount of freshwater in the world is only 3% of the world's water resource.

But almost two-third's of that fresh water is in glaciers, the ice-caps, the soil, and the atmosphere, so it can't be used by people. That leaves 1% of the world's total water as fresh water available to the world's population. And if that 1% of the world's water were distributed equally to all people, they would each have 160,000 cubic metres of water per person, per year, plenty of water to meet all of their daily needs and the needs of their country's industries.

But, not even all of that 1% of the world's water resource is really available to humanity. Some of that 1% is water which is polluted. Some of the 1% of the water resource is trapped underground and some is so isolated it is almost impossible to reach.

So we are left with 1/100th of a percent as fresh, accessible water. That's all the water we actually have to use for all of our needs. And even that amount could be workable if all people used it in equitable ways. But do we?

## Water: Want versus Need

The amount of water each person uses in the world varies a great deal, and appears to depend on the accessibility of the water.

Just to survive, each person needs 4.6 litres of water each day. To remain clean and healthy, each person needs an additional 23 litres—so we each need about 28 litres per person per day.

In developing countries, the amount of water used per person, per day, varies considerably. In countries where there is no tap or standpipe—each person uses, on average, 11 litres of water each day. In countries with a standpipe, each person uses 23 litres a day, on average. If there is a single tap in house, 40 litres will be used by each person, per day. And if there are multiple taps in the house, each person will use 150 litres per day.

**Each person in Canada uses 450 L per day, just in their homes. Canadians use more water per person than any other country!**

## Where Does The Water Go?

The following chart outlines how many of us use water in a typical day.

Brushing Teeth: 4 litres

Shower: 23 litres per minute - 230 litres for a 10 minute shower.

Bath: 180 litres to fill a standard bathtub

Toilet Flush: 20 - 35 litres with each flush

Drinking/Cooking: 15 litres per person

Washing Dishes by hand: 25 litres; By Machine: 55 litres per load

Load of Laundry: 200 litres

Watering the Lawn/Washing the Car using a Hose: 35 litres per minute

- 350 litres per 10 minute car wash or lawn watering

## Small Changes

It's easy to see where the water goes. But what can people do? Many things. The most important thing to do is to **REDUCE** the amount of water we waste. Think about fixing dripping taps, keeping a jug of cold water in the refrigerator, using water-saver shower heads, using toilet dams, using a bucket to wash the car... The list goes on and on. But what's important to realize and recognize is how much water we waste, and how small changes in the way we live really can add up to major reductions in the amount of water we waste, and that's **not just a drop in the bucket!**