

# 24 Hour Water Budget

**Objective: To create awareness of water usage by having students track their water habits and calculate how much water they use each day.**

## Background Information

Earth has a great deal of water covering its surfaces, but 97% of this is saltwater. Saltwater is great for marine animals and plants that are adapted to living in an environment with salt, but is not a great source for drinking water used by people and other freshwater animals. Three percent of the water on our planet is freshwater, with only 1% being accessible. The other 2% is trapped in the form of polar ice caps. We must share this 1% of usable water with every person, animal, and plant that also lives on earth.

As you can see, it is very important that we conserve the amount of water we have. Here are a few ways that you can do your part and save our freshwater supply from depletion:

- ✓ **Check your toilet for leaks. Put a few drops of food coloring in your toilet tank. If the coloring begins to appear in the toilet bowl without flushing, then you have a wasteful leak that should be repaired at once. Even a small leak can waste large amounts of water.**
- ✓ **Put a plastic container or displacement bag in your toilet tank. Put 1 to 2 inches of sand or pebbles in the bottom of a quart or larger container and fill the rest of the container with water. Put the cap on and place the bottle in your toilet tank; position it safely away from the operating mechanism. The container will save on each flush without impairing the efficiency of the toilet.**
- ✓ **Consider buying an ultra-low-flush toilet which uses only 1.6 instead of 3.5 to 5 gallons per flush for a standard toilet.**
- ✓ **Take shorter showers. You will save up to 5-10 gallons for every minute that you reduce your shower time.**
- ✓ **Turn off the water while brushing your teeth and shaving.**
- ✓ **Check faucets and pipes for leaks. Even a small drip wastes more than 1,500 gallons a month.**
- ✓ **Use your automatic dishwasher. Use this dishwasher for full loads only. Every load uses on average 9-12 gallons, while hand washing dishes uses 20 gallons.**
- ✓ **Use your automatic washing machine for full loads only.**
- ✓ **Don't let the faucet run while you clean vegetables. Instead rinse them in a sink full of clean water.**
- ✓ **Keep a bottle of drinking water in the refrigerator, so you won't have to run the tap to cool it.**
- ✓ **If you wash dishes by hand, then don't leave the water running while you rinse.**

- ✓ **Form your gardens by planting California native plants that require less water.**
- ✓ **Water early in the morning or late in the evening, so that less water will evaporate in the heat.**
- ✓ **Do not allow the hose to run as you wash your car. Use a self-closing hose nozzle, or turn off the water between rinses.**
- ✓ **Install a water saving shower head. You can save 20 or more gallons when you take a 5 minute shower.**

### **Directions**

**Lead students in a discussion about water conservation and have them investigate how much water they use. Distribute "My Water Budget" take home worksheets to students and have them monitor the amount of water they use over a 24 hour period of time.**

### **Conclusion**

**Ask students what they can do to conserve water in a more efficient manner at home. Review the many different ways that each person can help save our supply of freshwater.**



# My Water Budget

**Learn how much water you use each day! Record how many times you participate in specific activities within a 24 hour period and discover how you budget water.**

**Directions:**

- 1. Read column A and it will tell you which daily activities you need to track throughout a 24 hour period. Count how many times you do each of these activities and write these number on your sheet in column B.**
- 2. After you have collected all of your data, then calculate how many gallons of water you used for each activity. Multiply the data collected in column B by the rate given in column C and then write your answer in column D.**
- 3. Find the sum of the numbers in column D and write this at the bottom of the page.**

Column A	Column B	Column C	Column D
# of Times You Flush A Toilet	<u>          </u> Flushes	4.0 Gallons/Flushes	= <u>    </u> Gallons
# of Minutes You Use a Faucet	<u>          </u> Minutes	1.3 Gallons/Minutes	= <u>    </u> + Gallons
# of Baths You Take	<u>          </u> Baths	24.0 Gallons/Baths	= <u>    </u> + Gallons
# of Minutes You Shower	<u>          </u> Minutes	7.5 Gallons/Minutes	= <u>    </u> + Gallons
# of Times You Use A Dishwasher	<u>          </u> Washes	9.3 Gallons/Washes	= <u>    </u> + Gallons
# of Times You Use A Washing Machine	<u>          </u> Washes	41.0 Gallons/Washes	= <u>    </u> + Gallons
# of 8 Oz Water Glasses You Consume	<u>          </u> Ounces	0.04 Gallons/Ounces	= <u>    </u> + Gallons

**Total Gallons Used In a 24 Hour Day =      Gallons**

**Note: This activity does not record every way people can use water. Can you think of additional ways that you use water?**