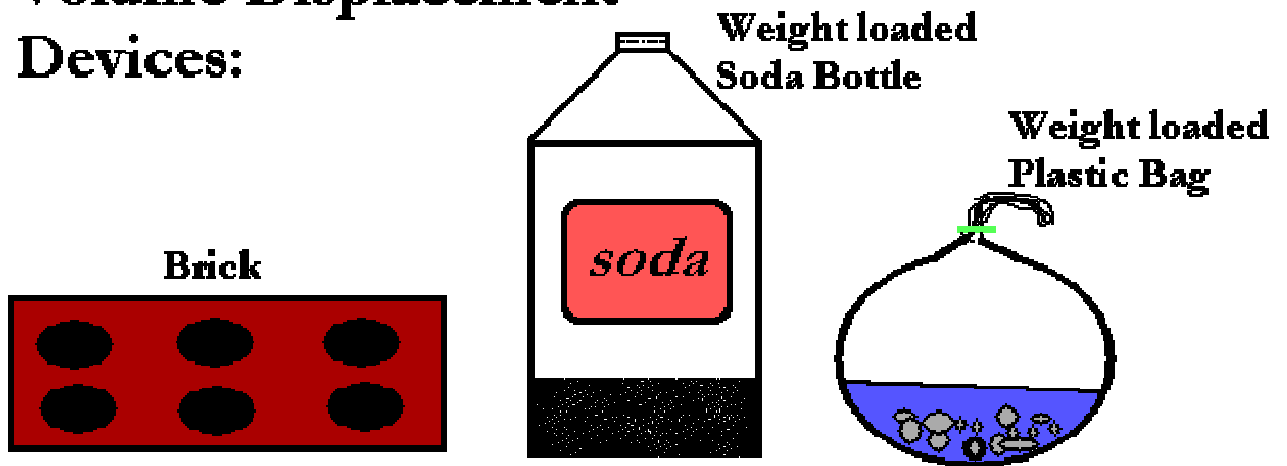


Water Saving Toilets

Volume Displacement Devices:

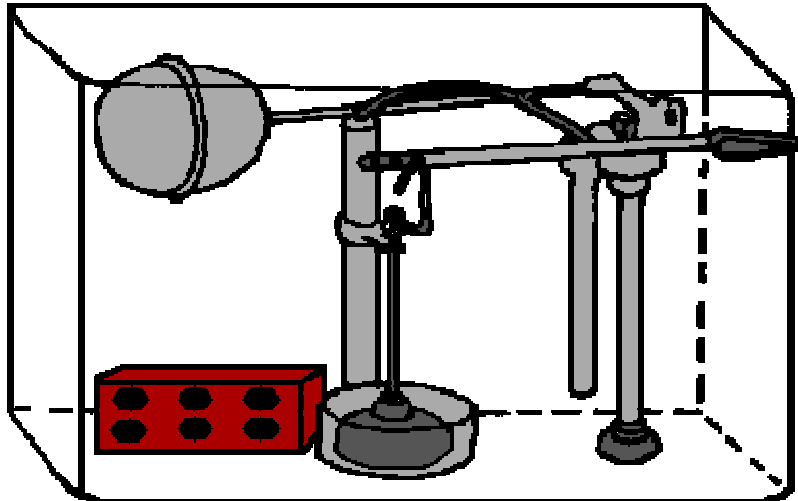


For decades toilet displacement devices have been used on non-conserving toilets in order to reduce the volume of water used each time the toilet is flushed. Typical displacement devices include bricks, plastic bottles, or plastic bags. Lighter items must be weight loaded in order to insure their stability.

The effect of these devices has been to reduce flows by a modest amount but with uncertain effects upon toilet performance. With older 5.5 gallon-flush toilets, they might have little effect upon performance but also little impact on the large water use. With new 1.6 gallon-flush toilets they might achieve the same saving but adversely affect bowl clearance and carrying ability.

For a 5.5 or 3.5 gallon-flush toilet it may be worthwhile at least trying displacement devices. If a brick is used, however, make sure to wrap it in a plastic wrap, or place it into a small garbage bag before placing it into the tank. Some bricks may deteriorate slightly if constantly in water and cause damage to the flushing mechanisms

Water Saving Toilets

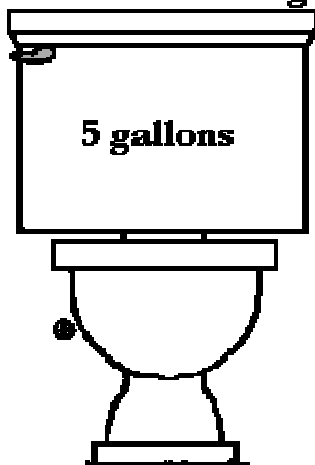


These displacement devices are simply placed into the tank in places in which they do not interfere with the function of the flushing mechanisms. The volume which they occupy will be saved each time the toilet is flushed.

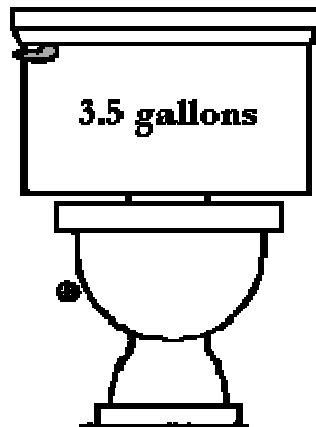
Devices of this type can reduce the amount of fresh water used by about 4.2 gallons/toilet/day. On a 3.5-gallon flush toilet, the use of these devices can reduce water consumption by about 12.75%.

Water Saving Toilets

Non-Conserving



Low Flush

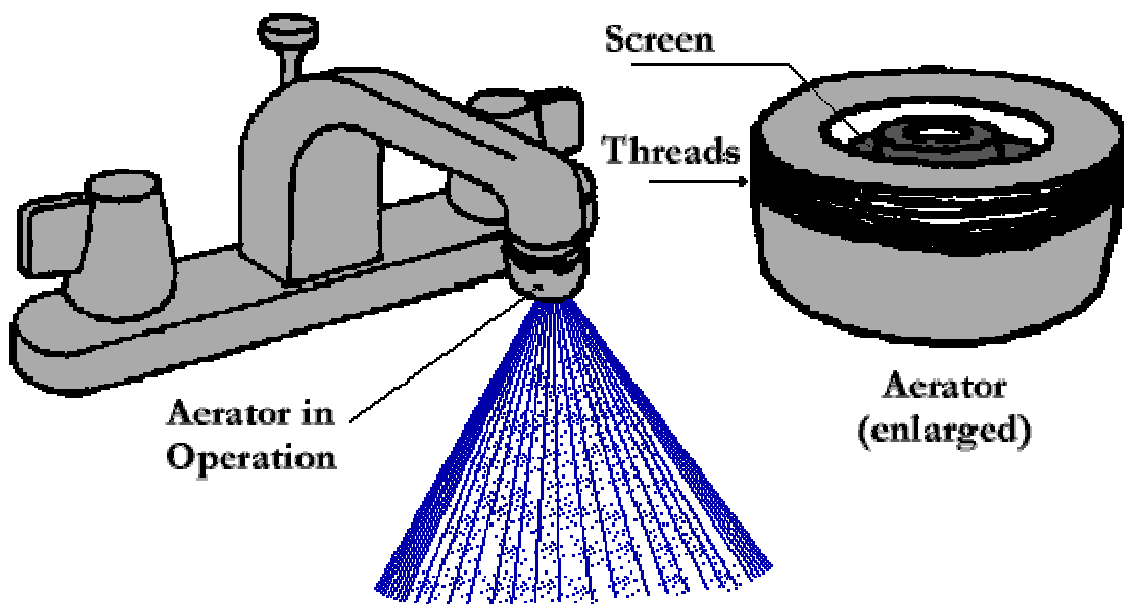


**36%
Savings**

In the 1970's many manufacturers had begun to make lower volume flush toilets of about 3.5 gallons per flush. By 1980 these constituted a majority of the toilets sold in the United States.

1.6-gallon models are now standard on new construction, but the older kinds still constitute a majority of those already in use. Even use of 3.5-gallon models saves about 36 percent of the water which would have gone down into the sewer.

Water Saving Faucets



Faucet aerators mix air and water as the water leaves the spout. They reduce both the flow rate and splashing, while increasing areas of coverage and wetting efficiency. This conserves water and improves faucet performance at the same time.

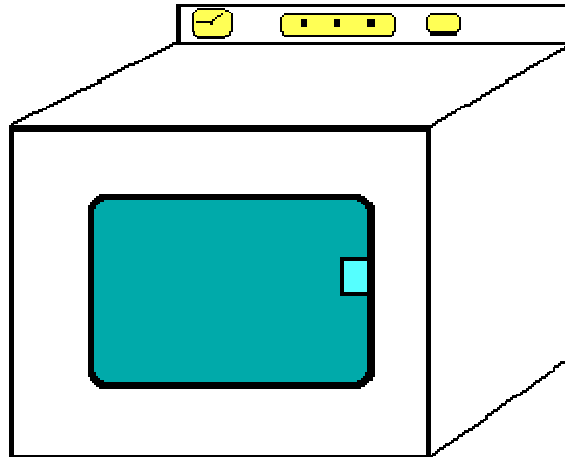
Aerators will not reduce the amount of water needed to fill a sink or water jug, but will reduce the amount of water needed for a thorough rinsing.

Faucet aerators offer flow rates from 0.5 to 2.75 gpm. Even a 2.75 gpm aerator can reduce faucet flow by 5.5 percent or more. The lowest acceptable flow rate for bathroom use is probably 1.0 gpm.

Make sure that ALL household sinks are equipped with aerators!

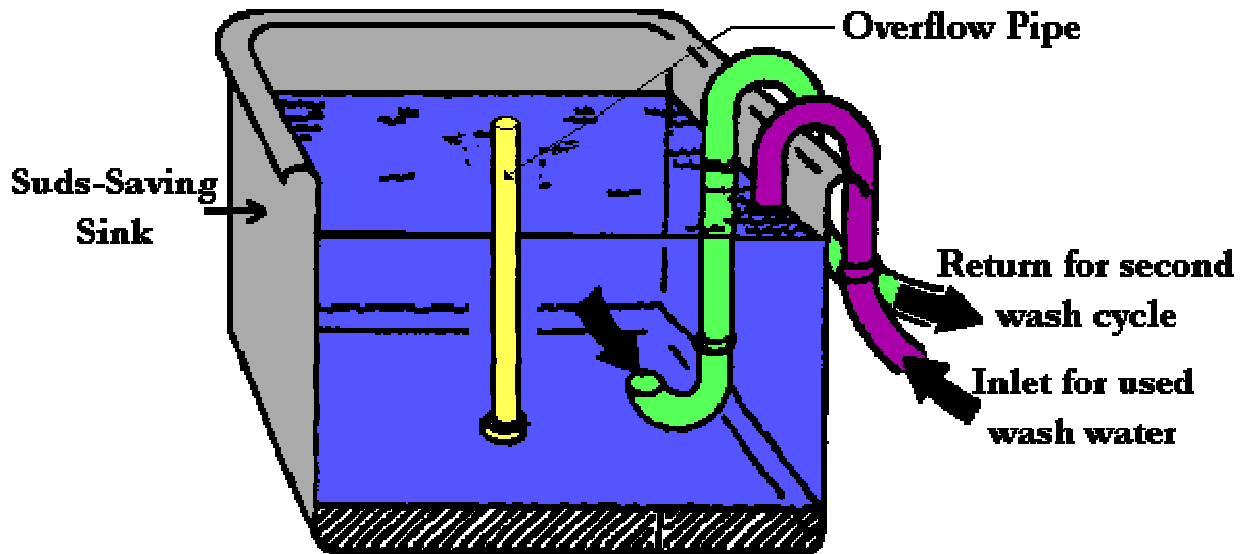
Water Saving Washing Machines

Front Loading



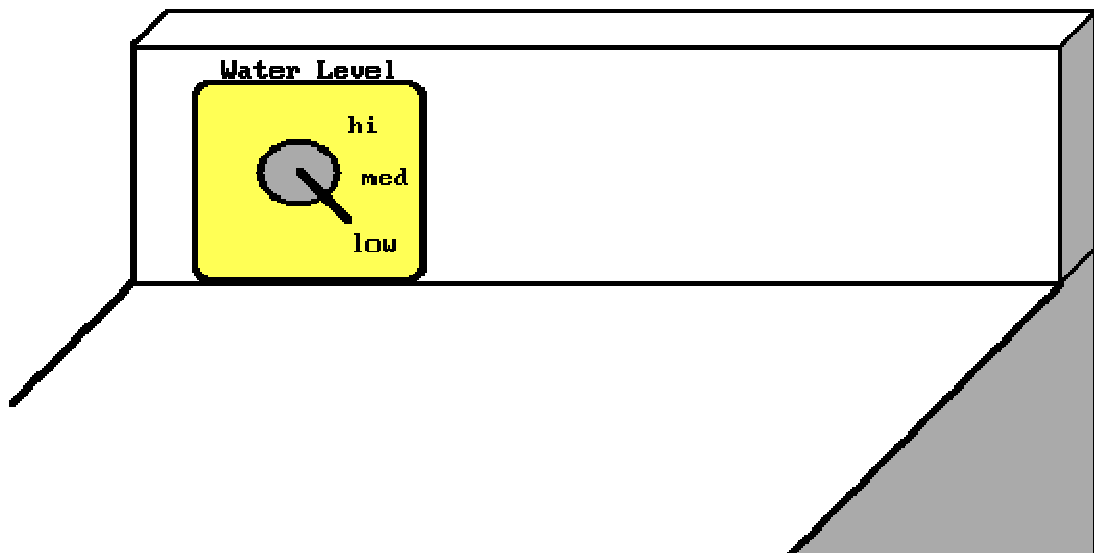
Front-loading machines use between 20 and 33 gallons of water per cycle, while top-loading machines may use 35 to 55 gallons. For the most common wash cycle (permanent press), a front-loader will use about half the water, half the hot water, and one third of the detergent of a top-loader!

Water Saving Washing Machines



Washing machines which use the suds-saver system store the wash water and suds either in an adjacent service sink, or within the unit itself to be used during the second wash cycle. This system not only conserves water and energy by reusing the hot water, but it will save on detergent too!

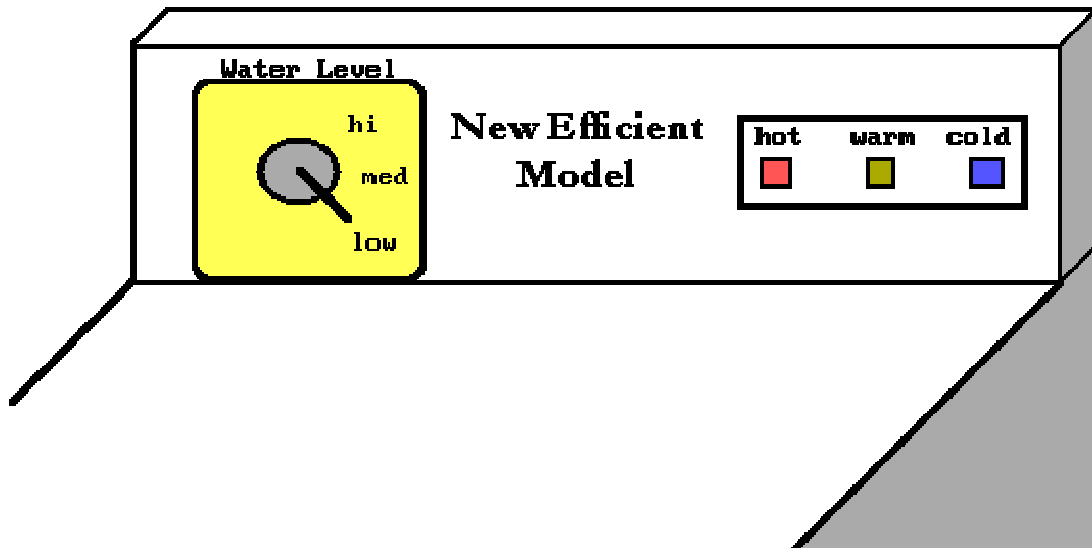
Control Panel



In almost all new washing machines, the water level can be adjusted to fit the size of the wash load. Simply by adjusting the water level to correspond to the load size may easily save as much as 12 gallons per week, especially if many smaller loads are washed!

Water Saving Washing Machines

Control Panel



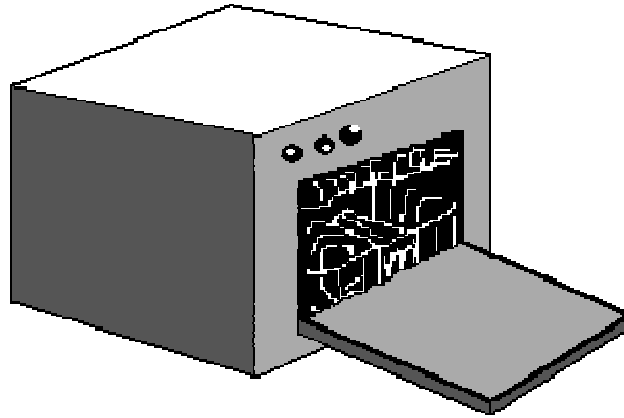
Finally, the design of the washer can dramatically affect the households water consumption. By purchasing a new highly efficient washing machine, a water savings of 24% to 50% is possible.

The variety of efficient washing machines has greatly expanded since 1995. There are now at least eight major manufacturers of front loading machines that are offered in the United States. Nearly annual tests in magazines like Consumer Reports give some idea of the various brands and their performance.

Some laundromats offer front-loading washers capable of doing very large loads (25 to 35 pounds dry). some of these machines are very efficient-- equivalent to 15 gallons for a 12 pound dry load, or 1.25 gallons of water used per pound of dry clothes.

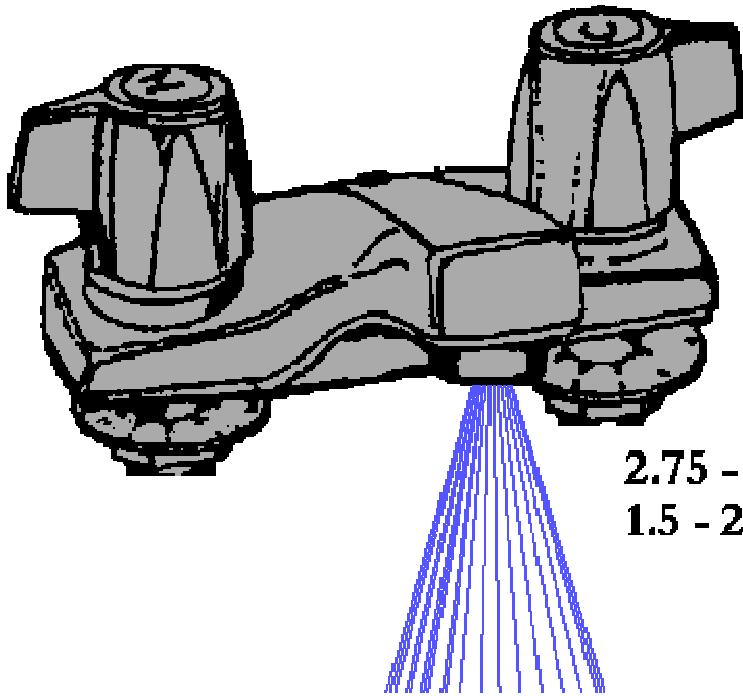
Water Saving Dishwashers

Dishwashers:



Dishwashing in the United States accounts for as much as 5% of the total domestic water volume consumed. Typical non-conserving machines can use from 13 to 25 gallons of water per day. Today's high efficiency models use only 9.5 to 12 gallons per load, while cleaning as effectively.

Water Saving Faucets



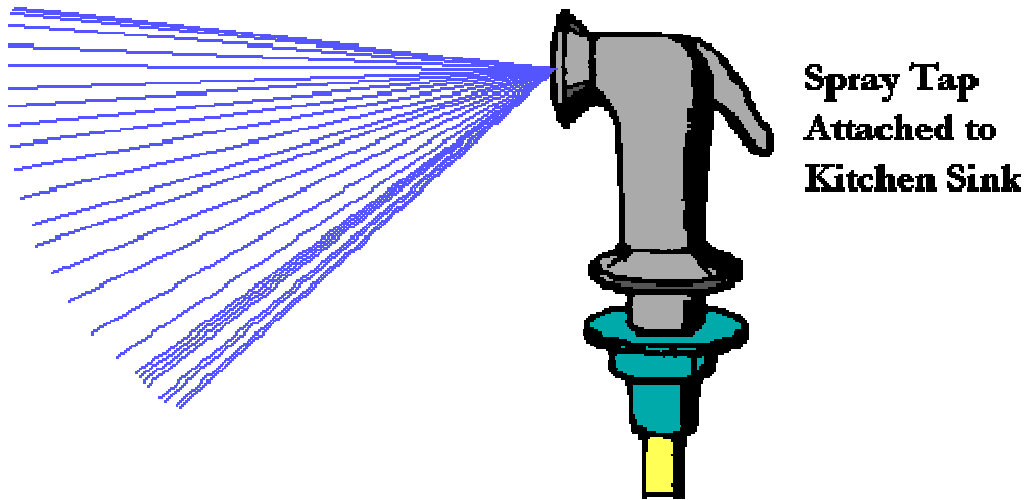
2.75 - 5 gpm Non-Conserving
1.5 - 2.75 gpm Low-flow

Conventional non-conserving faucets usually have flow rates between 2.75 and 5.0 gpm. Technological improvements have led to the low-flow faucets with rated flows between 1.5 and 2.5 gpm.

In a governmental study, it was found that using a low-flow faucet (2.75 gpm) only saved about one half-gallon per day. Even this modest reduction still adds up to a very significant savings of 5.5 percent. This is, however, only the beginning of technical possibilities; Buckminster Fuller demonstrated an air compressor assisted “atomizer” faucet using less than quart per minute

Most kitchen and bathroom faucets are made of brass, containing between 3 and 10 percent lead. This could make them a significant source of lead in drinking water, depending on the acidity of the water. Some new low flow faucets are lined with polypropylene plastic, to reduce or eliminate lead in drinking water.

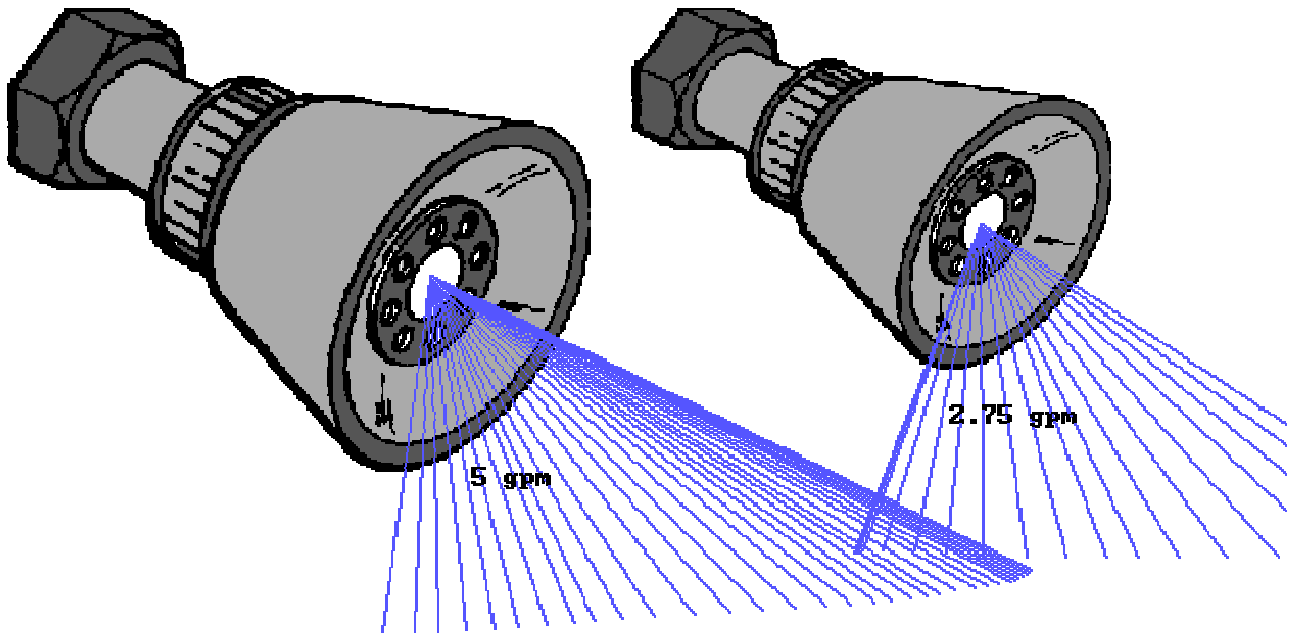
Water Saving Faucets



The spray tap is a valuable water saving device. It is found in many kitchens, but often goes unused.

The spray tap, primarily used for rinsing dishes and vegetables, breaks up the water stream into tiny droplets, very much like the operation of a shower head. It flows only while it is squeezed. It has been stated that spray taps use anywhere from 50% to 90% less water while rinsing than what the faucet would have used.

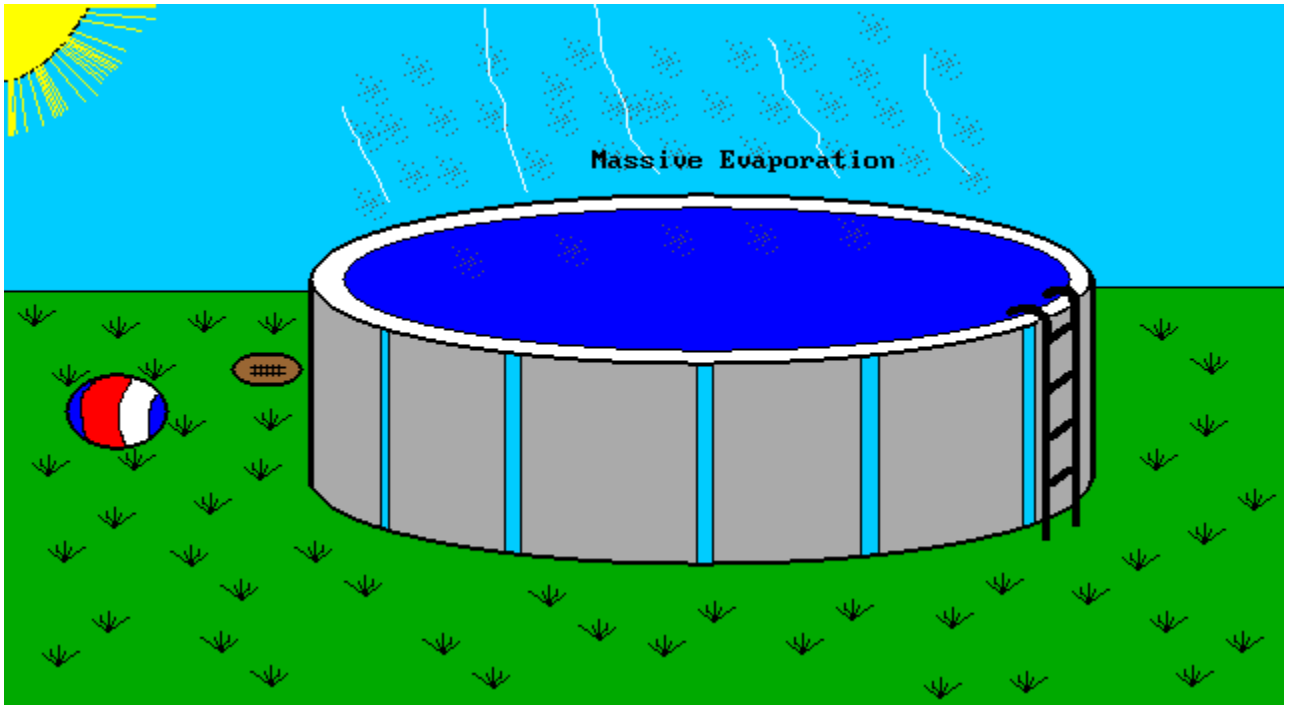
Water Saving Shower Heads



In order to reduce the amount of water consumed for bathing purposes, low-flow shower heads have been manufactured as replacement items for the older non-conserving shower heads. Some low-flow shower heads use a smaller inlet orifice, reducing the flow rate to about 2.75 gallons per minute. Others have been designed throughout to work well at lower flows and may use between 1.5 and 2.25 gallon per minute

Low-flow shower heads have been tested and proven to save more than 12 gallons/shower head/day, which amounts to at least a 44% savings compared to non-conserving shower heads.

Pool Practices



The surface evaporation from a 30'x15' pool with an average temperature of 78 degrees Fahrenheit, and 30% Relative Humidity, is about 3 inches each week, or about 1500 gallons to be replaced every week!