Water Waste: It's Easier Than You Might Think

Most of us don't think much about the dripping faucet, leaky hose, whistling toilet, or swampy sprinkler head we may live with for months. However, they are continuous forms of water waste that add up faster than you might think. The tables below illustrate how quickly a tiny leak can turn into a big water bill. The first table shows water loss rates in the tenths of a gallon, the measure used by Des Moines Water Works water meters. The second table uses common household measurements most of us are familiar with. Finally, the "Drip Table" allows you to estimate the effects of dripping faucets.

Wasting Water Is Easy: Decimal Gallons				
	It wastes the following number of gallons in:			
If a leak has a continuous flow of:	**I hour**	**1 Day**	**1 Bill Period***	**1 Year**
1/10 gallon per minute	6	144	4,320	52,560
2/10 gallon per minute	12	288	8,640	105,120
3/10 gallon per minute	18	432	12,960	157,680
4/10 gallon per minute	24	576	17,280	210,240
5/10 gallon per minute	30	720	21,600	262,800
6/10 gallon per minute	36	864	25,920	315,360
7/10 gallon per minute	42	1,008	30,240	367,920
8/10 gallon per minute	48	1,152	34,560	420,480
9/10 gallon per minute	54	1,296	38,880	473,040
1 gallon per minute	60	1,440	43,200	525,600
* Based on 30 days average per billing period; 365 days/year.				

Most of us don't think, as our meters do, in tenths of a gallon. The following table uses the same calculations to estimate the consumption in common household measures like the 2-liter pop bottle.

Wasting Water Is Easy: Common Measures				
	It wastes the following number of gallons in:			
If a leak has a continuous flow of:	**I hour**	**1 Day**	**1 Bill Period***	**1 Year**
1 cup (1/16 gal) per minute	4	90	2,700	32,850
1 pint (1/8 gal) per minute	8	180	5,400	65,700
1 quart (1/4 gal) per minute	15	360	10,800	131,400
2 litters (about 1/2 gal) per minute	32	761	21,600	277,698
1 gallon per minute	60	1,440	43,200	525,600
* Based on 30 days average per billing period; 365 days/year.				

A leak you can measure by cupfuls or more is an obvious problem few of us would ignore. A dripping faucet is harder to measure and easier to let go "for now". As "for now" stretches to weeks, the water waste adds up, often much faster than we imagine.

The amount of water dripping slowly from a faucet is difficult to generalize about. Not only do drop sizes vary, but terms like "slow drip" are fairly subjective concepts.

What one person considers "slow" might seem fast to someone else. To measure a leak, count drops for 30 seconds, then check the table below to see how much water your result adds up to in a day, a billing cycle of about 60 days, or a year. A drop of 1 drop per second wastes about 60 drops per minute, 5 gallons a day, 150 gallons a billing cycle, and 1,800 gallons if neglected for a year. Perhaps five gallons doesn't seem like a lot of an individual. Consider the community effects, though: If half our single-family residential customers found and fixed a 1 drip per second leak, this would save about 170 million gallons, or 500 acre feet.

A toilet can waste those same five gallons per day in a single unnecessary flush.

What's a "Drop"?
Unfortunately, a "drop" of water is not a scientific measurement, because the volume of a drop is affected by variables like the size and shape of the outlet the drop is coming through. For example, there are five "faucet drops" in a milliliter, but twenty "eyedropper drops." Even a drop of rain can vary in size depending on things chemistry classes do experiments with, like surface tension.

Fix A Leaky Toilet? Sure!

A leaking toilet pouring water down its outflow tube can easily consume an additional 100-250 gallons per day. A stream of water the thickness of a pencil, from a faucet or sprinkler head, filling a cup in 30 seconds equals 1 pint per minute and nearly 5,500 gallons per 30 day billing period. Des Moines Water Works usage table, "Where Your Water Goes," shows consumption averages for household use.

Wasting Water Is Easy: Drops Add Up

If a leak has a continuous flow of:	It wastes the following number of gallons in:			
	Drops/Minute	**1 Day**	**1 Bill Period**	**1 Year**
5 drops in 30 seconds	10 dpm	0.8	24	292
10 drops in 30 seconds	20 dpm	1.6	48	584
15 drops in 30 seconds	30 dpm	2.4	72	876
20 drops in 30 seconds	40 dpm	3.2	96	1168
25 drops in 30 seconds	50 dpm	4	120	1460
30 drops in 30 seconds	60 dpm	4.8	144	1752
35 drops in 30 seconds	70 dpm	5.6	168	2044
40 drops in 30 seconds	80 dpm	6.4	192	2336
45 drops in 30 seconds	90 dpm	7.2	216	2628
50 drops in 30 seconds	100 dpm	8	240	2920
55 drops in 30 seconds	110 dpm	8.8	264	3212
60 drops in 30 seconds	120 dpm	9.6	288	3504
* Based on 30 days average per billing period; 365 days/year.				

Finally, for most homeowners, the lawn is the single biggest consumer of water, receiving at least half of all the water on a typical residential bill over the year, Why? Because, for example, Kentucky Blue Grass requires between one and two inches of water a week to flourish. A square foot of lawn, covered 1.5 inches deep, has received about a gallon of water. A 50X50 foot yard watered at that rate will consume about 2,500 gallons a week or 10,000 gallons per 30 day billing cycle. Seeding with native grasses can cut this consumption in half.