

GATHER THAT SHOWER WATER

The Science

When you turn on the shower, the water that immediately comes out is not hot. It may take a few seconds to a few minutes for that water to warm up enough for you to hop in. The amount of time it takes for the water to heat up depends on how far away the hot water heater is from your shower. If it is close, the hot water takes a short amount of time. If the hot water heater is on the opposite side of the house from your shower, it could take a minute or more.

An average shower uses 2.5 gallons of water a minute and takes one minute to warm up. By putting a bucket in the shower to gather the water before it gets hot, you can save water and use it for other purposes, such as watering houseplants, watering the garden, or filling your pets' water bowls.



The Benefits

- It is inexpensive to do this water-saving tip.
- Water that would otherwise go down the drain can be used for other purposes.

Possible Drawbacks

- You will have to find or purchase a bucket.
- You will have to remember to reuse the water once you are done with your shower.

Amount of Water Saved

- 1) Let's assume you shower 6 times a week and collect just two gallons of water before each shower.
- 2) In one year, you would save **624 gallons** of water.

The Power of New Mexico Middle School Students

Use information in the "Amount of Water Saved" section above to answer the following question.

If every middle school student in New Mexico (75,500 students) collected and reused water that normally goes down the drain while waiting for the shower water to heat up, how many gallons of water could be saved?

WATER DOWN THE DRAIN

The Science

Water does not necessarily have to have a “one-time” use in your house. Instead of pouring water down the drain, much of it can be used elsewhere. For example, you left your half-full water glass on the counter last night. Instead of pouring it down the drain, use the water for your houseplants or plants in your garden. When you cook vegetables, there is the water left over in the pot. You can let this water cool and then pour it into your houseplants or your garden. You can give it to your animals - add it to your chicken scrap pail, pig slop pail, or even pour it over your dog’s or cat’s food to give it some extra nutrients (as long as you didn’t add salt to the cooking water). Potato water has starch in it and can be used to make bread or gravy.



The Benefits

- It costs nothing to do this water saving tip.
- Vegetable water can add extra nutrients to animal food and plants.
- Using potato water can add starch to foods like gravy.

Possible Drawbacks

- It takes time and possibly another container to cool the water from cooking before pouring it over plants.

Amount of Water Saved

- 1) Let’s assume you collect and reuse 2 gallons of water a week.
- 2) In one year, you would save **104 gallons** of water.

The Power of New Mexico Middle School Students

Use information in the “Amount of Water Saved” section above to answer the following question.

If every middle school student in New Mexico (75,500 students) collected and reused water that normally goes down the drain, how many gallons of water could be saved?

IT'S A BAD FLAPPER, I RECKON

The Science

The amount of water your toilet uses depends on two factors: how many gallons it uses per flush and the toilet's working condition. In 1992, federal law mandated that all new toilets use no more than 1.6 gallons per flush (gpf). Older toilets generally used 3.5 gpf or 5 gpf. However, even newer toilets may be tremendous water wasters, often due to a "leaky flapper."

The flapper is located at the bottom of a gravity-fed toilet, a toilet that uses the weight and height of the water in the tank to generate the force needed to flush waste through the bowl. When a toilet is flushed, the handle arm with a chain on the end lifts the flapper. Water rushes through the hole that was once covered by the flapper, rinses the bowl, and forces waste down the drain and into the sewer system. Once all of the water is out of the tank, the flapper lowers back over the hole and the tank refills with water. Leaks occur when the flapper does not reset perfectly over the hole due to the rubber cracking with age, toilet cleaners corroding the rubber, or a mineral deposits building up. A toilet with a leaky flapper is commonly called a "running" toilet because it is constantly flushing.

While some running toilets can be detected by the periodic sound of a flushing toilet, not every running toilet can be detected through noise. A simple dye test can detect if your toilet is leaking:

- 1) Put 10-15 drops of dark-colored food dye into the tank.
- 2) After 15 minutes, check the toilet bowl for any signs of color. If there is color in your bowl, then your toilet is leaking.
- 3) Flush again so the dye does not stain your toilet.

The Benefits

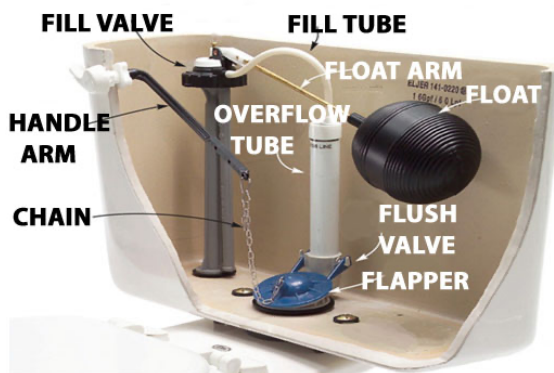
- Detecting a small, soundless leak in your toilet takes 15 minutes.
- Most small leaks are easy to fix without needing to call a plumber.
- A good quality flapper costs less than \$10 and will pay for itself in water bill savings.

Possible Drawbacks

- It takes time to make the necessary repairs.

Amount of Water Saved

- 1) Let's assume you detect a small leak in one of the toilets in your house.
- 2) Fixing that small leak will save 30 gallons of water a day or **10,950 gallons** of water in one year.



The Power of New Mexico Middle School Students

Use information in the "Amount of Water Saved" section above to answer the following question.

If every middle school student in New Mexico (75,500 students) detected and fixed a small leak in one toilet in their house, how many gallons of water could be saved?