The Pool Bucket Test

A simple do-it-yourself guide to checking for swimming pool leaks

Is your swimming pool losing water? Before assuming you have a leak, try this simple 24-hour test to help distinguish normal evaporation from a possible pool leak.

How the Bucket Test Works

The water inside the bucket serves as an evaporation reference: it shows approximately how much water is lost naturally to the weather. The pool water reflects total water loss, which may include evaporation and leakage.

After 24 hours, compare the amount each level has dropped from its own starting mark. If the pool drops noticeably farther than the bucket, a leak may be present.

STEP 1 | Gather Your Supplies

You'll need a few simple items:

- A clean 5-gallon bucket
- A permanent marker
- A ruler or tape measure (optional)

Use a clean, watertight bucket that can rest securely on a pool step.

STEP 2 | Position the Bucket

Scoop some pool water into the bucket first so it has enough weight to stay put. Then set it on a submerged pool step so it sits stable and upright. The rim must remain above the surrounding pool water. The bucket should not float, tip, or move during the test.

STEP 3 | Fill the Bucket

Add pool water until the water level inside the bucket is higher than the pool water level outside. Leave space below the rim to prevent spilling. Keep the bucket securely positioned on the step.

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STEP 4 | Mark Both Water Levels

Using a permanent marker, make two separate horizontal marks on the outside of the bucket:

- Inside: Mark the height of the water inside the bucket.
- Pool: Mark the height of the surrounding pool water on the outside of the bucket.

Label the marks “Inside” and “Pool” if helpful. These are the original starting levels you will compare against after 24 hours.

STEP 5 | Wait 24 Hours

Leave the bucket in the same position for 24 hours.

- Do not add water to the pool or bucket.
- Turn off any automatic pool filler.
- Avoid swimming, splashing, or disturbing the bucket.
- Keep the pool pump on its normal operating schedule.
- Make sure the bucket remains stable and upright.

If heavy rain occurs or the bucket is disturbed, repeat the test under better conditions.

STEP 6 | Compare the Water Levels

After 24 hours, measure or visually compare how far each water level has fallen below its own original mark.

- About the same drop: Water loss is likely due to evaporation.
- Pool drops noticeably more: Your pool may have a leak.

For example, if the bucket drops ½ inch while the pool drops 1 inch, the extra pool water loss is a strong indication of a possible leak beyond evaporation.

The bucket test can indicate a possible leak, but it cannot identify where the leak is located.

Remember

The two starting water levels do not need to be equal. What matters is the distance each level drops from its own original mark over the same 24 hours.

Understanding Pool Evaporation

There is no universal “normal” evaporation rate. Air and water temperature, humidity, wind, sunshine, water features, and seasonal conditions all affect water loss. The bucket comparison is more informative than relying on a fixed daily evaporation limit.

What Does a ¼-Inch Daily Drop Mean?

Even a small change in water level represents a significant volume of water. The table below illustrates the approximate amount lost from rectangular pools if their water level drops ¼ inch per day.

Pool size	Gallons per day	Gallons per year
20 × 40 ft	125	45,625
18 × 36 ft	101	36,865
14 × 28 ft	61	22,265
13 × 26 ft	53	19,345
12 × 24 ft	45	16,425

Approximate figures for rectangular pools, assuming a consistent ¼-inch daily drop for 365 days.

Important: This table illustrates the volume represented by a ¼-inch drop; it does not establish ¼ inch per day as an acceptable evaporation limit.

When Should You Suspect a Leak?

The key measurement is how much more the pool loses than the bucket during the same 24 hours. A noticeably greater drop in the pool suggests water loss beyond normal evaporation and warrants further investigation.

What If Your Pool Fails the Bucket Test?

If the results suggest a possible leak, consider professional pool leak detection. Leak Wizard can help investigate potential leaks involving the pool shell, skimmers, lights, fittings, return and suction lines, and underground pool plumbing.

Leak Wizard — Pool Leak Detection