

How To Measure Water pH At Home

I was raised in the country and we had well water.

It tasted good but it turned the tub, our clothes, and even our hair red. That's because it had iron in it, which is a sign that the water was acidic. To combat this, we used a water filtration system, which increased the pH in the water by removing the excess metals in the water.

But is water pH important for any other reason that white tubs? Yes it is!

We've discussed the importance of pH before, in articles such as [how to make wine](#) and [vinegar](#). Obviously, those two food items are acidic, which means that the pH in each of them is less than 7. Pure water has a pH of 7; a pH less than 7 is considered acidic and a pH greater than 7 is considered basic, or alkaline.

The Visual Effects of Acidic or Basic Water

As I stated above, the contents of your water have an aesthetic effect on clothes, dishes, and pipes. The average pH for surface water is 6.5-8.5. Normal groundwater is 6-8.5. If you go too far in either direction, higher or lower, you'll likely see some physical evidence of it.

Water with a pH of less than 6.5 or so is acidic and often contains heavy metals such as iron, manganese, copper, lead, and zinc. Obviously, you don't want to drink too much of these because of the damage that these metals can do to your health. We'll discuss that in a bit.

Acidic water is corrosive and can damage pipes, stain laundry and appliances with a blue-green tint, and leave a buildup on dishes. It may also taste metallic. You may remember what the water tasted like coming out of the water hose when you were a kid; that's similar to what acidic water may taste like.

The way that you balance it is by adding a neutralizer such as soda ash (sodium carbonate).

Water with a pH higher than 7 is considered basic or alkaline, though it's not really outside the realm of "normal" until it's higher than 8 or 8.5.

Alkaline water is often high in calcium and will leave whitish scaly deposits on your dishes, utensils, tubs, and appliances and can clog your pipes. It also tastes a bit bitter, especially when you make your morning Joe, and can make it hard to get a lather out of soaps.

pH CHART

Consume Freely
Raw is Best

10

High Alkaline Ionized Water

Raw Spinach
Brussel Sprouts
Cauliflower
Alfalfa Grass
Seaweeds

Raw Broccoli
Red Cabbage
Carrots
Cucumbers
Asparagus

Artichokes
Raw Celiery
Potato Skins
Collards
Lemons & Limes

Alkaline
pH

9.0

Olive Oil
Raw Zucchini
Sprouted Grains
Raw Green Beans
Mangoes
Tangerines
Grapes

Most Lettuce
Sweet Potato
Raw Eggplant
Blueberries
Papayas
Melons

Borage Oil
Raw Peas
Alfalfa Sprouts
Pears
Figs & Dates
Kiwi

Most foods
get more acidic
when cooked

8.0

Apples
Tomatoes
Turnip
Bell Peppers
Pineapple
Wild Rice
Cantaloupe
Oranges

Almonds
Fresh Corn
Olives
Radish
Cherries
Strawberries
Honeydew
Grapefruit

Avocados
Mushrooms
Soybeans
Rhubarb
Millet
Apricots
Peaches
Bananas

Neutral pH
Optimum pH
for HUMAN BLOOD

7.0

Most Tap Water

Municipalities adjust tap water to be +/- 7.0
Optimum pH for HUMAN BLOOD is 7.365

Butter, fresh, unsalt
Cream, fresh, raw
Milk, raw cow's
Margarine
Oils, except Olive

It takes 20 parts
of ALKALINITY
to neutralize
1 part ACIDITY
in the body

6.0

Milk, Yogurt
Most Grains
Eggs
Kidney Beans
Processed Juices
Brown Rice
Sprouted Wheat Bread
Oysters

Fruit Juices
Soy Milk, Goat's Milk
Fish
Lima Beans
Rye Bread
Cocoa
Oats
Cold Water Fish

Cooked Spinach
Coconut
Tea
Plums
Spelt
Rice & Almond Mill
Liver
Salmon, Tuna

5.0

Cooked Beans
Sugar
Potatoes w/o Skins
Garbanzos
Butter, salted
Wheat Bran

Chicken & Turkey
Canned Fruit
Pinto Beans
Lentils
Rice Cakes
Rhubarb

Beer
White Rice
Navy Beans
Black Beans
Cooked Corn
Molasses

Acidic
pH

4.0

Reverse Osmosis Water
Coffee
Pistachios
Cranberries
Wheat
Popcorn

Distilled & Purified Water
White Bread
Beef
Prunes
Most Nuts
Peanuts

Most Bottled Water
& Sports Drinks
Blackberries
Sweetened Fruit Juices
Tomato Sauce

Consume
sparingly
or never

3.0

Lamb
Shellfish
Goat Cheese
Pasta
Worry
Tobacco Smoke
Sweet'N Low
NutraSweet

Pork
Pastries
Soda
Pickles
Lack of Sleep
Chocolate
Equal
Processed Food

Wine
Cheese
Black Tea
Stress
Overwork
Vinegar
Aspartame
Microwaved Foods

2.3

Colas! (Off the Chart)

Health Risks Associated with Water pH

I've written content for the holistic health and medical fields for a long time, and though there's a certain following that says that water pH can change the pH of your body, there's simply not enough evidence to corroborate that. Your body does a dang good job of balancing itself and saying that water pH can alter your blood pH is a stretch.

Also, pH levels, in and of themselves, do not indicate the safety of water. For instance, arsenic may be present but not significantly affect the pH.

However, pH can be a good indicator that there are toxic substances such as heavy metals in your water because "soft" water (water with a low pH), can leach metal ions out of soil and pipes. For example, lead is never a good thing, and a low pH is an indicator that your water may contain lead or other poisonous metals.

On the flip side, calcium found in water with an alkaline pH can balance some of this out. It can make some heavy metals such as lead, copper, and zinc less toxic.

Calcium can strengthen pipes by lining them with a protective coating, but it can also clog them if it builds up too much. You've probably heard the term, "hard water." That refers to water with a high pH, because of the build-ups. In limed soil, calcium can immobilize iron and cause a shortage even if there's plenty of iron in the soil.

As you can see, the primary health concern when it comes to the pH of drinking water is consuming heavy metals. The important thing to remember is that pH is only one measure of water safety. It doesn't necessarily tell you what other toxins such as fertilizers, fungicides, and other chemicals are in there.

When to Drink Alkaline Water



Rise and Shine

Start your day with a 16 oz glass of alkaline water with a pH of 10 or higher

One hour before meals

Drinking an 8 ounce glass of water before a meal helps reduce your appetite

One hour after meals

An 8 ounce glass of alkaline water an hour after a meal helps flush acidic residues from the stomach

Before, during, and after workouts

Drink alkaline water with a pH of 10 or higher to neutralize acidity caused by muscular acidosis

One hour before bed

A glass of water an hour before bed can prevent a heart attack or stroke

When not to drink alkaline water



During Meals

Try to avoid drinking any fluids during a meal to avoid diluting your digestive juices.



Medications

If you get thirsty, drink just enough plain water to slake your thirst
Most medicine is designed to be timed-release. Alkaline water's superior hydration may cause your body to absorb medicines too fast

Alkaline water hydrates faster and better than plain water.

The Effects of Water pH on Soil

The pH of water plays a much bigger role in other ways, though. The two biggest areas may be in how it affects soil and aquatic life. As we've already discussed, the calcium that's typically found in alkaline water can affect how your plants absorb essential minerals such as zinc and iron.

Again, pH isn't the only factor; some fish that can survive in water with a pH as low as 4.7 will die at a pH of 5.5 if the water contains just a tick too much iron. PH isn't everything, but it's a good indicator.

PH is important to soil because some plants prefer an acidic soil and some prefer an alkaline soil. Planting in the correct soil will increase plant health and growth, and therefore yield. If you're going to plant it, you may as well get as much bang for your buck as possible!

PH affects everything from the levels and types of good and bad bacteria in the soil to the texture of the soil itself. For instance, clay that is in the optimal range or 5.5-7 is granular and easy to work with. If it's overly acidic or alkaline, it becomes sticky and hard to work with.

Most plants thrive in neutral or almost-neutral soils, but there are some that love acidic soil. These include radishes, blueberries, cranberries, sweet potatoes, parsley, peppers of all sorts, and rhubarb. The majority of plants can tolerate a mildly-acidic soil, but they're much less tolerant to alkaline conditions.

This is because minerals dissolve better in acidic soil. This sounds like a good thing, but only to a certain degree. A pH of about 5.5 is about as low as any plant will tolerate because below that, the concentration of metal ions, especially aluminum, manganese, and iron, become so high that they can inhibit plant growth. Phosphorus, calcium, and

magnesium may also be less available.

Following the pattern, you may guess that alkaline soils inhibit the release of minerals and nutrients, which is why plants can't tolerate those conditions.

It's important to [test your soil](#) and know your plants. The goal isn't so much to achieve a certain pH as it is to make sure that the soil acidity is such that there aren't any toxic metals and the nutrient availability is maximized. In other words, no poison, plenty of nutrients!

If your soil is too acidic, you can neutralize it a bit using lime. Alkaline soils, on the other hand, aren't as easy to adjust. Sometimes you can add sulfur or acid-forming fertilizers, but it's probably easier just to [add nutrients](#) via fertilizer and compost.

Note that pH isn't everything. Many sands have a great pH for growth but contain practically zero nutrients. That's OK – you can always [add nutrients](#).

Importance of pH in Streams

Now THIS is where water pH makes a real difference. We've already discussed how acidic water induces the release of minerals and we know that many of those minerals are toxic in high levels.

When the pH of water becomes too acidic due to contamination by acid rain or run-off that contains fertilizers or other acidic chemicals, it can be catastrophic to aquatic life.

Many plants and aquatic creatures are adapted to survive in a specific pH and can't tolerate more than just a minuscule change.

Not only does the acid affect the nutrients in the water, it can also cause the same physical problems to fish and plants

that they cause to your drains and pipes.

Heavy metals can accumulate on gills and even cause deformities on young, growing fish. The same idea goes for plants that grow in the water, except they're affected by the pH in the soil as well as the water.

The biggest issue here isn't that one fish or one plant can't tolerate a change; everything that eats that fish or plant, or is eaten by that fish, is affected as well. Aquatic systems are delicate and even a small change can cause huge ripples.

As you can see, pH is just a number; it's the changes that accompany that number that can cause problems or bring joy and growth. Keep an eye on the pH of [your soil](#) because it can change!

How to Measure pH

There are simple pH strips that you can buy at a pool store which use color strips to tell you what the pH of the water or soil is. If you'd rather do it the natural way, which is the way we usually prefer to do things, you have a couple of choices.

The first way is to gather 1 cup of soil (total) from a few different parts of your garden. Add a couple spoonfuls to 2 separate containers, then add 1/2 cup vinegar to the soil in one container. If it fizzes, your soil is alkaline, with a pH between 7 and 8. If it doesn't, add 1/2 cup baking soda to the other cup. If it fizzes, you have acidic soil. It's a good guess that the pH is somewhere between 5 and 6. If it doesn't fizz either time, you have neutral soil – congrats!

The second way to test pH – and this works for soil and water – is to use a red cabbage. Yep, that's right. Simmer 1 cup of red cabbage in two cups of distilled water for 5 minutes. Remove from heat and let it steep for another 30 minutes or

so.

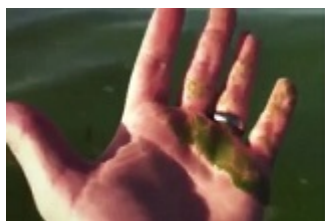
To test your soil, place a couple of spoonfuls of your soil to a couple of containers, like you did before. It would be good this time around if the containers are clear. Strain the cabbage, keeping the water. It will be a purply-blue color and has a pH of seven – completely neutral.

Add 1/4 cup or so of cabbage water to each cup, stir it up, and let it sit for 30 minutes. If the water turns pink, your soil is acidic. If it's blue/green, your soil is alkaline.

Video first seen on [Carl Nelson](#).

To test your water, simply substitute water for the soil. The same colors apply.

Now that you know a bit more about how and why pH makes a difference with your water and soil, try the tests. If you have something to add about pH, please feel free to comment in the section below.



**Breakthrough NEW Device Instantly
Transforms Deadly Contaminated Water Into
Clean, 100% Safe Delicious Water**

[Watch video >>](#)

*This article has been written by **Theresa Crouse** for Survivopedia.*