



Testing pH Levels in Gardening and Healthcare

In this activity, you will test out two different soils to determine their pH levels. So what exactly is pH? pH is a scale from 0 to 14 that scientists use to measure how acidic or alkaline a substance is when dissolved in water. In medicine, pH blood and urine tests are used to diagnose illness. In a healthy human body, the lungs and kidneys carefully regulate pH and maintain a slightly alkaline pH level of around 7.4. In soil analysis, pH can indicate if the soil is well suited to the nutritional needs of a particular plant species.

Materials

1. Distilled water - neutral
2. Vinegar - acidic
3. Baking soda - alkaline
4. Different soil samples

Acid pH Test

1. Fill the container to the second line with vinegar.
2. Break one capsule and pour in powder shaking until completely homogenous mixture is attained.
3. The color should be orange to red, matching the acidic portion of the color test strip on the side of the container.

Rinse the container out well with distilled water and dry completely.

Base pH Test

1. Fill the container to the first line with baking soda.
2. Fill the container to the second line with distilled water.
3. Break one capsule and pour in powder shaking until completely homogenous mixture is attained.
4. The color should be dark green, matching the alkaline portion of the color test strip on the side of the container.

Rinse the container out well with distilled water and dry completely.

Blueberry Soil pH Test

1. Fill the container to the first line with soil from around the blueberry bush.
2. Fill the container to the second line with distilled water.
3. Break one capsule and pour in powder shaking until homogenous mixture is achieved.
4. Note pH level. (Should be acidic.)

Rinse the container out well with distilled water and dry completely.

Lavender Soil pH Test

1. Fill the container to the first line with soil from around the lavender bush.
2. Fill the container to the second line with distilled water.
3. Break one capsule and pour in powder shaking until homogenous mixture is achieved.
4. Note pH level. (Should be alkaline.)

Discussion Questions

1. Besides breathing and sweating, what are some other ways we can maintain a healthy pH level?
 - a. Exercise. Eat healthy foods like greens, seeds, nuts and berries. Drink lots of water. Get good rest.
2. What are some other acids and bases that you know of?
 - a. ACIDS: soda, citrus, candy etc.
 - b. BASES: milk of magnesia, soaps, cleaning materials etc.