

# pH SCALE

Acid rain is measured using a pH scale.

pH is a measure of hydrogen ion concentration, which is measured as a negative logarithm. In other words, acids produce hydrogen ions and alkalis produce hydroxyl ions, so pH is the power of a solution to yield hydrogen ions [H<sup>+</sup>].

The pH scale ranges from 0 to 14 and indicates how acidic or basic a substance is.

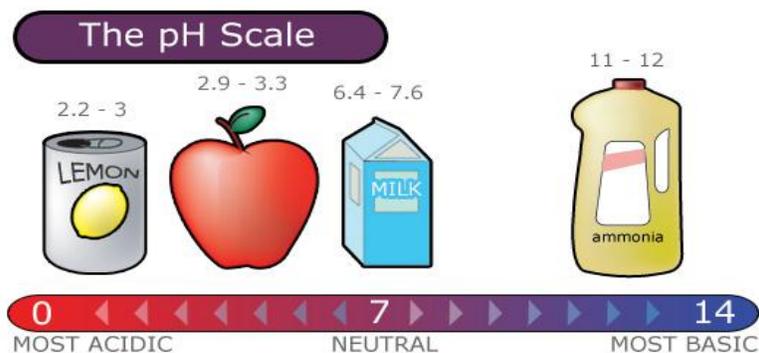
- A pH of 7 is neutral.
- A pH less than 7 is acidic
- A pH greater than 7 is basic.

The *lower* a substance's pH, the *more acidic* it is. Each whole pH value below 7 (the neutral point) is ten times more acidic than the next higher value.

- For example, a pH of 4 is ten times more acidic than a pH of 5 and 100 times (10 times 10) more acidic than a pH of 6.

The *higher* a substance's pH, the *more basic* or *alkaline* it is.

- Each whole pH value above 7 is ten times more alkaline (another way to say basic) than the next lower whole value.
- For example, a pH of 10 is ten times more alkaline than a pH of 9.



## Protecting the Environment from Acid Rain

You can do the following to protect the environment from acid rain:

- Turn off lights, computers, and other appliances when you're not using them.
- Use energy efficient appliances: lighting, air conditioners, heaters, refrigerators, washing machines, etc.
- Only use electric appliances when you need them.
- Keep your thermostat at 68°F in the winter and 72°F in the summer. You can turn it even lower in the winter and higher in the summer when you are away from home.
- Insulate your home as best you can.
- Carpool, use public transportation, or better yet, walk or bicycle whenever possible.
- Buy vehicles with low NO<sub>x</sub> emissions, and maintain all vehicles well.

Source: <https://www.e-education.psu.edu/egee102/node/1967>