ACIDS, ALKALIS, AND THE pH SCALE

The pH scale is a way of gauging the acidity or alkalinity of a solution. It is calculated using: $pH = -\log_{10}[H^+]$. Adding an acid to water increases the H^+ (H_3O^+) concentration, and decreases the OH^- concentration. An alkali does the opposite.

ALKALINE
Purple → Blue → Turquoise

NEUTRAL
Green

ACIDIC
Yellow → Orange → Red

pH	H^+ CONCENTRATION (in moles per litre)	OH^- CONCENTRATION (in moles per litre)	EVERYDAY EXAMPLE	
14	1×10^{-14}	1	Drain Cleaner	
13	1×10^{-13}	0.1	Bleach	
12	1×10^{-12}	0.01	Ammonia	
11	1×10^{-11}	0.001	Soap	
10	1×10^{-10}	1×10^{-4}	Antacid Tablets	
9	1×10^{-9}	1×10^{-5}	Baking Soda	
8	1×10^{-8}	1×10^{-6}	Seawater	
7	1×10^{-7}	1×10^{-7}	Pure Water	
6	1×10^{-6}	1×10^{-8}	Urine (average)	
5	1×10^{-5}	1×10^{-9}	Black Coffee	
4	1×10^{-4}	1×10^{-10}	Tomato Juice	
3	0.001	1×10^{-11}	Soda	
2	0.01	1×10^{-12}	Lemon Juice	
1	0.1	1×10^{-13}	Stomach Acid	
0	1	1×10^{-14}	Battery Acid