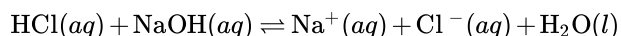


## 11.6: Acid-Base Reactions

Early in the history of chemistry it was noted that aqueous solutions of a number of substances behaved very similarly, although the substances themselves did not at first seem to be related. Solutions were classified as **acids** if they had the following characteristics: sour taste; ability to dissolve metals such as Zn, Mg, or Fe; ability to release a gas from solid limestone ( $\text{CaCO}_3$ ) or other carbonates; ability to change the color of certain dyes (litmus paper turns red in the presence of acid). Another group of substances called **bases or alkalies** can also be distinguished by the properties of their aqueous solutions.

These are bitter taste, slippery or soapy feel, and the ability to change the color of certain dyes (litmus paper turns blue in base). Most important of all, acids and bases appear to be opposites. Any acid can counteract or **neutralize** the properties of a base. Similarly any base can neutralize an acid.

The video below demonstrates one of the ways acids and bases are determined (indicators - often colorful as seen below) and shows an example of a neutralization reaction.



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