

Acids and Bases

Properties of Acids

- * Sour tasting
- * Corrosive
- * Water Soluble
- * Good Conductor of Electricity

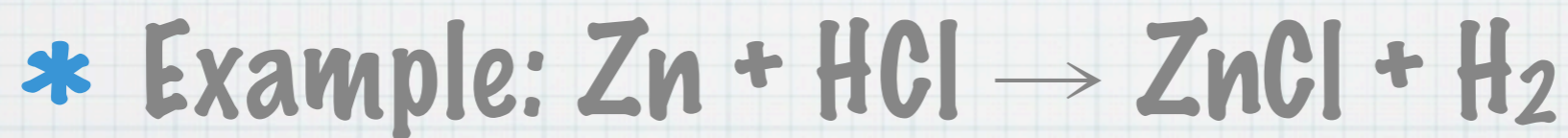


Acids

- * When mixed in with water release H^+ atoms

Reactions

* When combined with metals, acids produce hydrogen gas



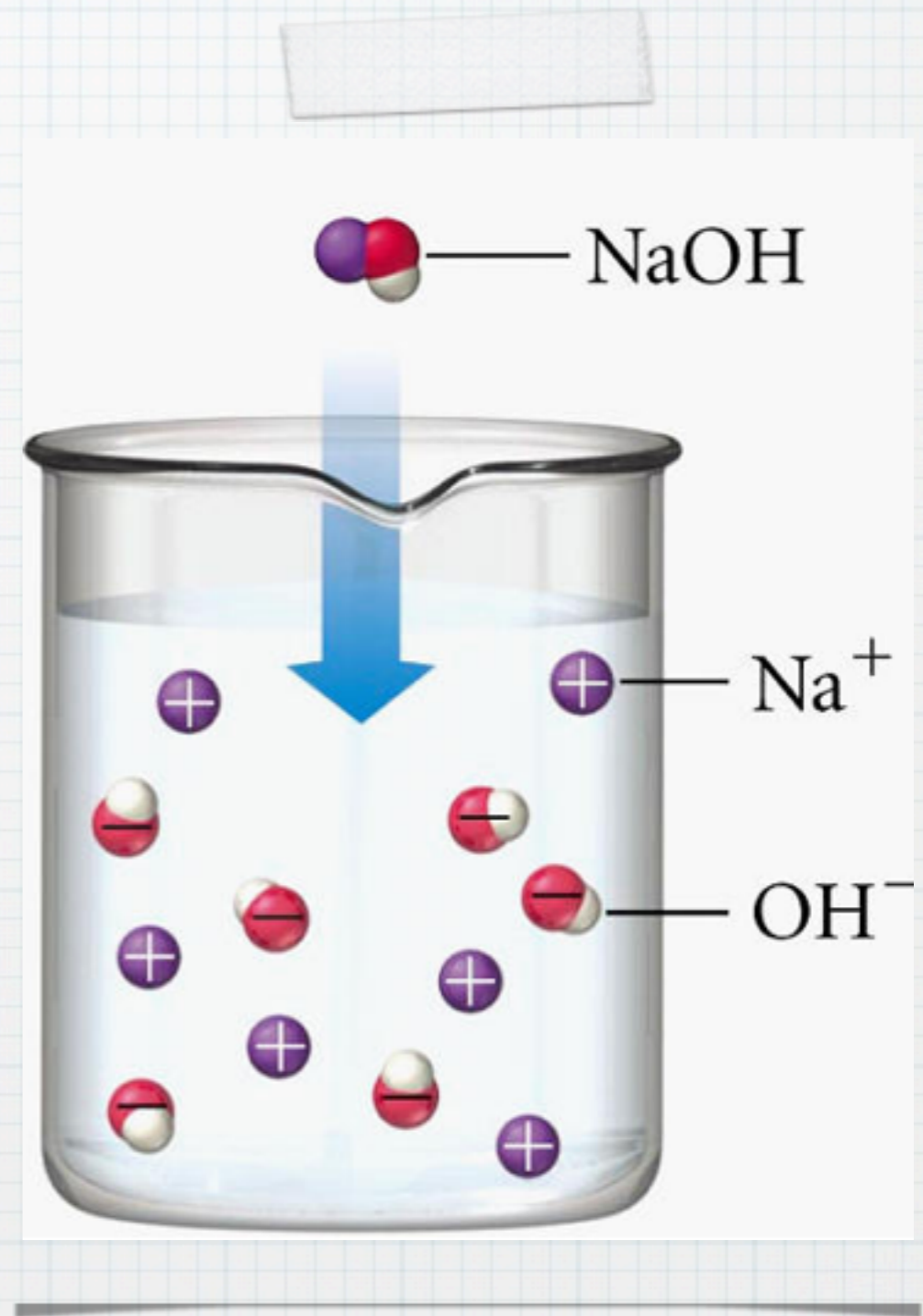
Reactions

* When combined with carbonates, they produce carbon dioxide gas

* Example: $\text{HCl} + \text{CaCO}_3 \rightarrow \text{CO}_2 + \text{H}_2\text{O} + \text{CaCl}$

Properties of Bases

- * Bitter tasting
- * Corrosive
- * Water Soluble
- * Good Conductors of Electricity



Bases

* When in water release OH^-

Reactions

- * Bases react with protein (like those in your skin and eyes)

Class Poll. . .

- * What do you think can do more damage to a Coke can, and acid or a base?

Is it an acid or a base?

* Usually acid starts with H

* Examples

* HCl : hydrochloric acid

* H₂SO₄ : sulphuric acid

* HNO₃: nitric acid

* Sometimes bases will have OH.

* NaOH: Sodium hydroxide

* KOH: Potassium Hydroxide

* NH₄OH: Ammonium hydroxide

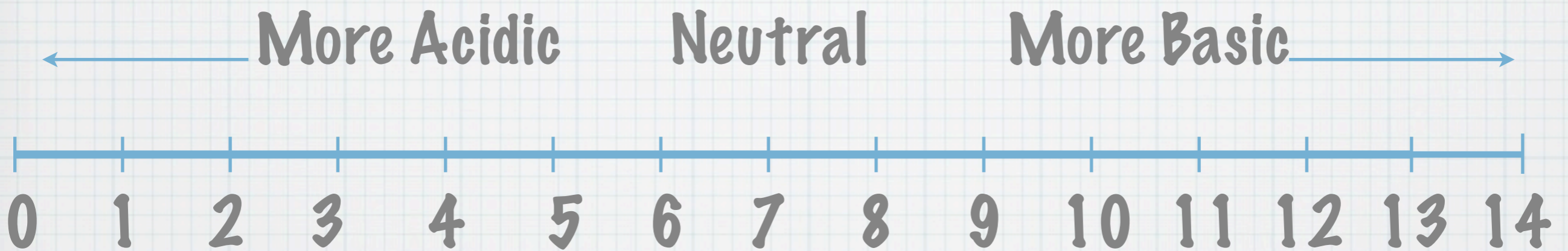
Acids and Bases

pH, Indicators, and Neutralization

pH Scale

- * pH scale: a scale that represents the amount of H^+ ions

* The pH scale ranges from 0-14



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Neutralization

- * **Neutralization:** an acid and base react to form a salt and a water.

Neutralization

- * A special case of double displacement
- * $\text{HCl} + \text{NaOH} \rightarrow \text{H}_2\text{O} + \text{NaCl}$

Neutralization

- * **Teacher Demo: What happens when you have a particularly acidic lunch?**