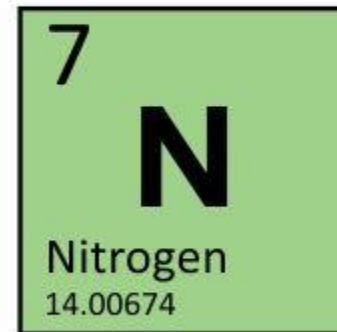
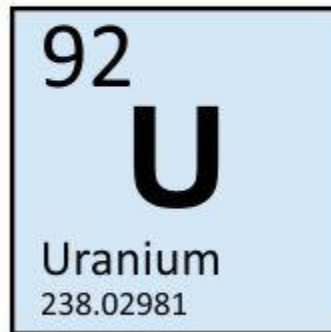
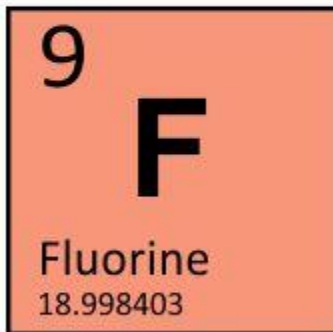


# Chemistry is



## 5.2 Salts

- **Salts**

- ♦ ionic compounds
- ♦ formed when acids (negative ion) and bases (positive ion) react
- ♦ Found in many things:
  - In batteries, explosives and fertilizers
  - In multivitamins
  - In many living cells



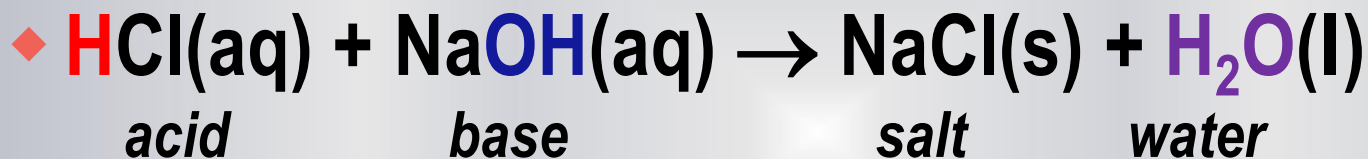
Salt crystals in Death Valley

- Table salt (NaCl)

- ♦ Locations found: sea water, salt lakes or rock deposits.

## Acid-Base Neutralization

- Neutralization reactions occur when an acid and a base react to produce a salt and water.



## Metal Oxides

- Metal oxides react with water to form bases.
  - ◆  $\text{Na}_2\text{O}(\text{s}) + \text{H}_2\text{O}(\text{l}) \rightarrow 2\text{NaOH}(\text{aq})$

**OH...IT'S A BASE**

## Non-Metal Oxides

- Non-metal oxides react with water to form acids
  - ◆  $\text{SO}_2(\text{g}) + \text{H}_2\text{O}(\text{l}) \rightarrow \text{H}_2\text{SO}_3(\text{aq})$
  - ◆ Non-metal oxides are formed from the burning of fossil fuels.
    - Acid added to water in the atmosphere = acid precipitation.

The effects of acid  
rain on a forest



# Acids and Metals

- Acids and Metals

- ◆ The most reactive metals, at the bottom of groups 1 and 2 on the periodic table, react vigorously with water and acids.
- ◆ All other metals are less reactive than those in groups 1 and 2.
- ◆ When metals do react with acids, H<sub>2</sub> gas is usually released.
- ◆  $2\text{HCl}(\text{aq}) + \text{Mg}(\text{s}) \rightarrow \text{MgCl}_2(\text{s}) + \text{H}_2(\text{g})$

# Acids and Carbonates

- Acids and Carbonates

- ◆ Carbonates neutralize acids, protecting locations with natural carbonate supplies from acid precipitation.

