Introduction to Chemistry: Reactions and Ratios

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1 S5: Matter

- Halogens (7A)
- Noble Gases (8A)

Elements that exist as diatomic molecules end with **"gens"** (e.g. hydrogen, halogen)

2 S6 : Energy Part II

- Measured in Joules
- Tendency of universe towards *lowest energy*

$$\delta E = E_f - E_i \quad (1)$$

[1]

3 S7 : Energy Part II

- For **like-charged** particles, the energy **increases** the **closer** the particles are.

[1] f stands for final and i stands for initial

- For **oppositely-charged** particles, the energy **decreases** the **closer** the particles are.

Coulomb's Law:

$$\delta F = \frac{kq_1q_2}{\epsilon r^2} \tag{2}$$

4 S8 : Intro Stoichiometry Part I

HNO_2 nitrous acid

5 S9 : Intro Stoichiometry Part II

Avogadro constant:

$$6.022 * 10^{23} = 1\ mole \tag{3}$$

The constant defined as the number of atoms in 12 grams of hydrogen of the isotope carbon-12