

Why and How atoms combine:

Electron Transfer

Noble gases

- the atoms in group 8/18
- generally nonreactive (because they are stable)
- all have 8 valence electrons, except helium

Lewis Theory:

- Proposed by Gilbert Lewis, Irving Langmuir, Walter Kossel
- Explain chemical bonding

Basic assumptions:

1. Electrons in the outermost electron shell of valence electrons have an essential role in chemical bonding
2. Electrons may be transferred or shared to assume a stable configuration (i.e. noble gas configuration) that contains 8 valence electrons. This is called the octet rule.

Lewis Electron Dot Structure (LEDS)

- Lewis developed this special representation to apply to the octet rule.

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