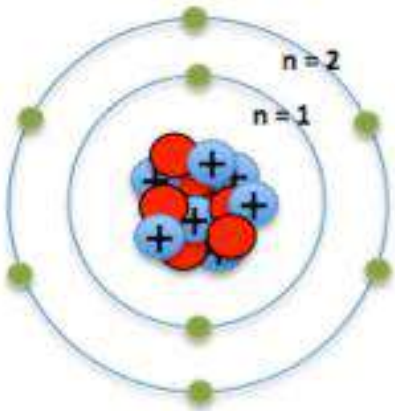


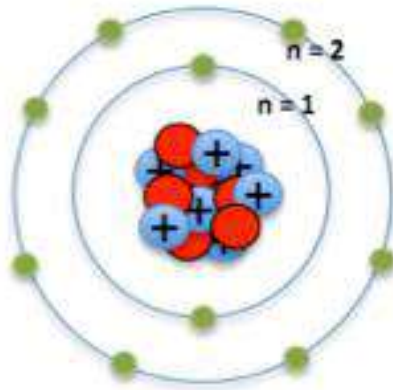
Atoms and Bonding Vocabulary

1. Valence electron

The electrons that are in the highest energy level of an atom and that are involved in chemical bonding.



Oxygen = 8 electrons
6 valence electrons



Neon = 10 electrons
8 valence electrons

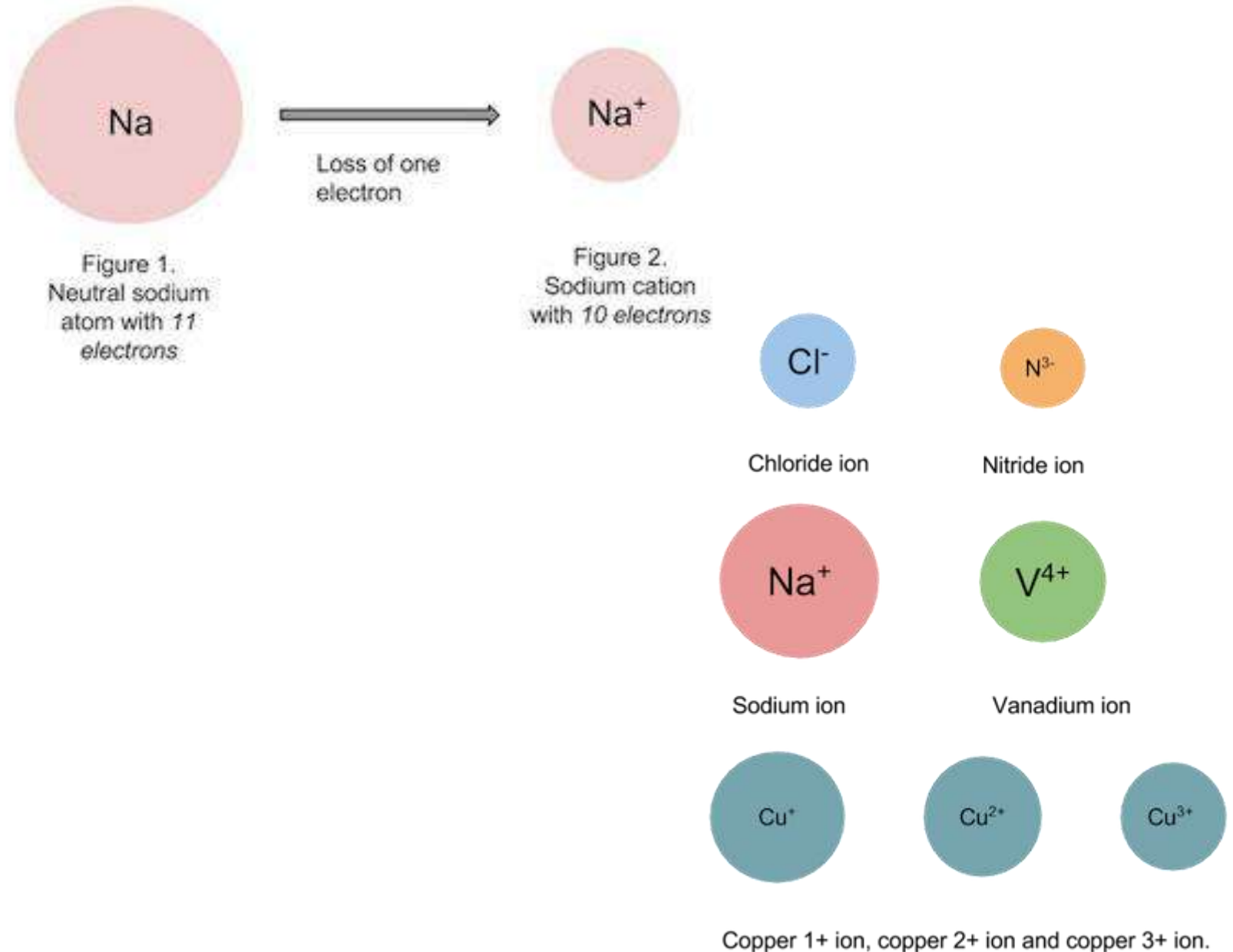
Valence Electrons of Oxygen and Neon

Valence Electrons in Each Group

1																			2
1	2												3	4	5	6	7	8	
1	2												3	4	5	6	7	8	
1	2												3	4	5	6	7	8	
1	2												3	4	5	6	7	8	
1	2												3	4	5	6	7	8	
1	2												3	4	5	6			

2. Ion

An atom or group of atoms that has an electric charge.



3. Polyatomic ion

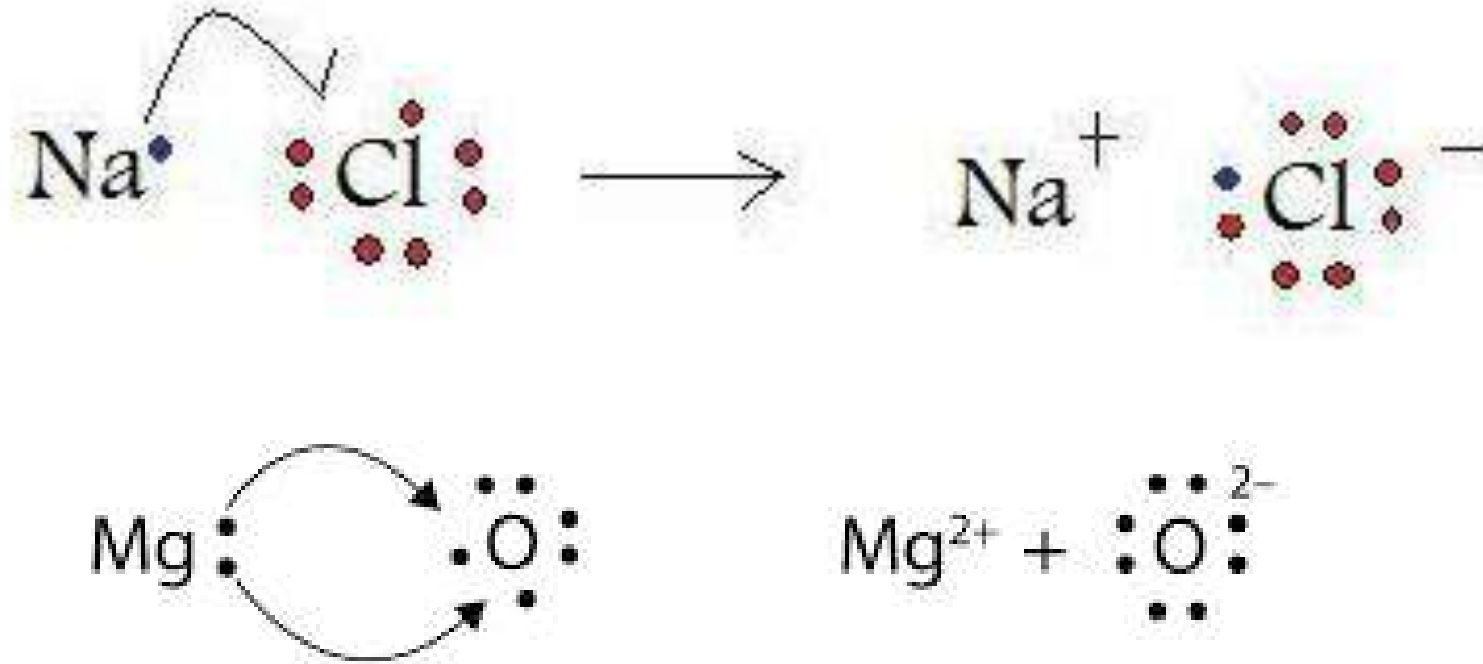
An ion that is made of more than one atom.

Polyatomic Ions

Polyatomic Ion	Formula	Ionic Formula	Charge
Ammonium	NH ₄	[NH ₄] ⁺	1+
Hydroxide	OH	[OH] ⁻	1-
Nitrate	NO ₃	[NO ₃] ⁻	1-
Sulfate	SO ₄	[SO ₄] ²⁻	2-
Carbonate	CO ₃	[CO ₃] ²⁻	2-
Phosphate	PO ₄	[PO ₄] ³⁻	3-

4. Ionic bond

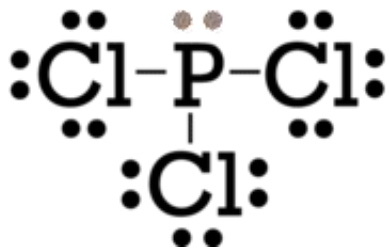
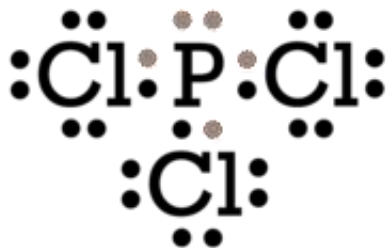
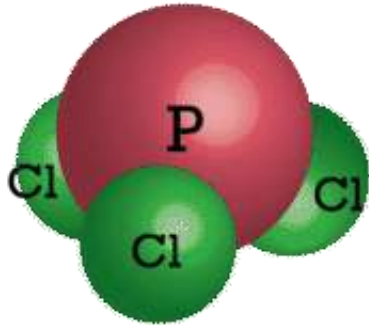
The attraction between oppositely charged ions.



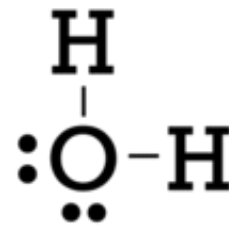
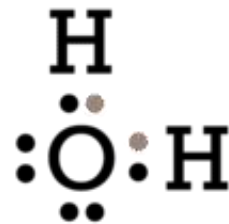
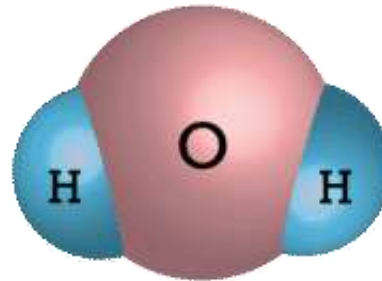
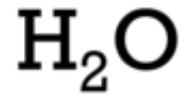
5. Covalent bond

A chemical bond formed when two atoms share electrons.

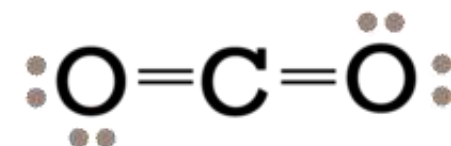
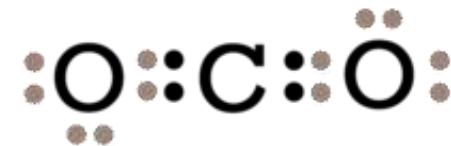
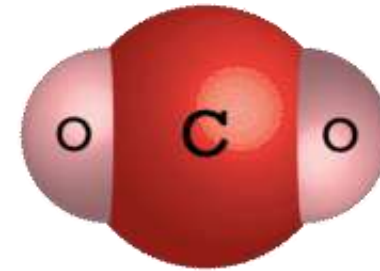
Phosphorus Trichloride



Water



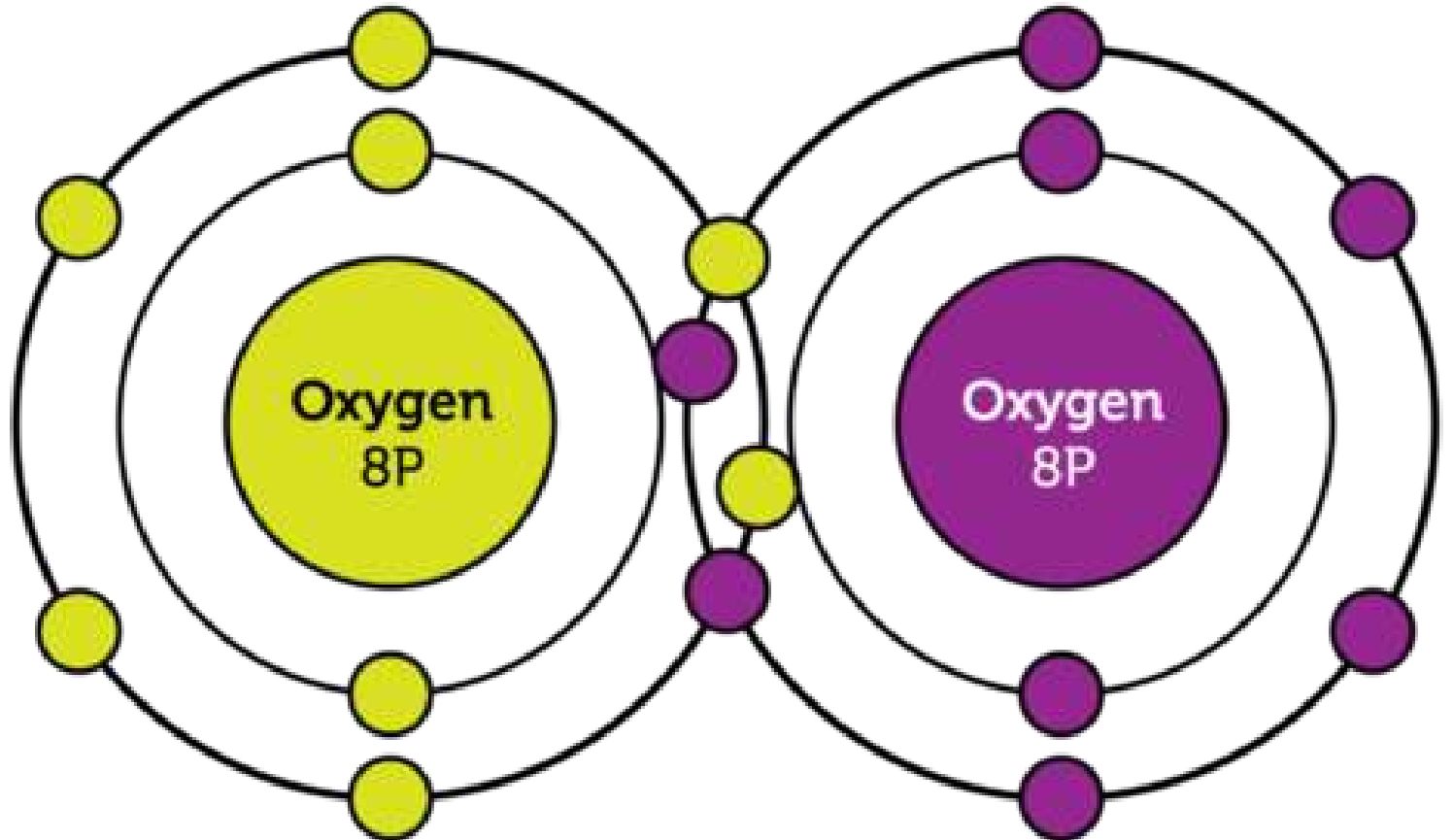
Carbon Dioxide



6. Nonpolar bond

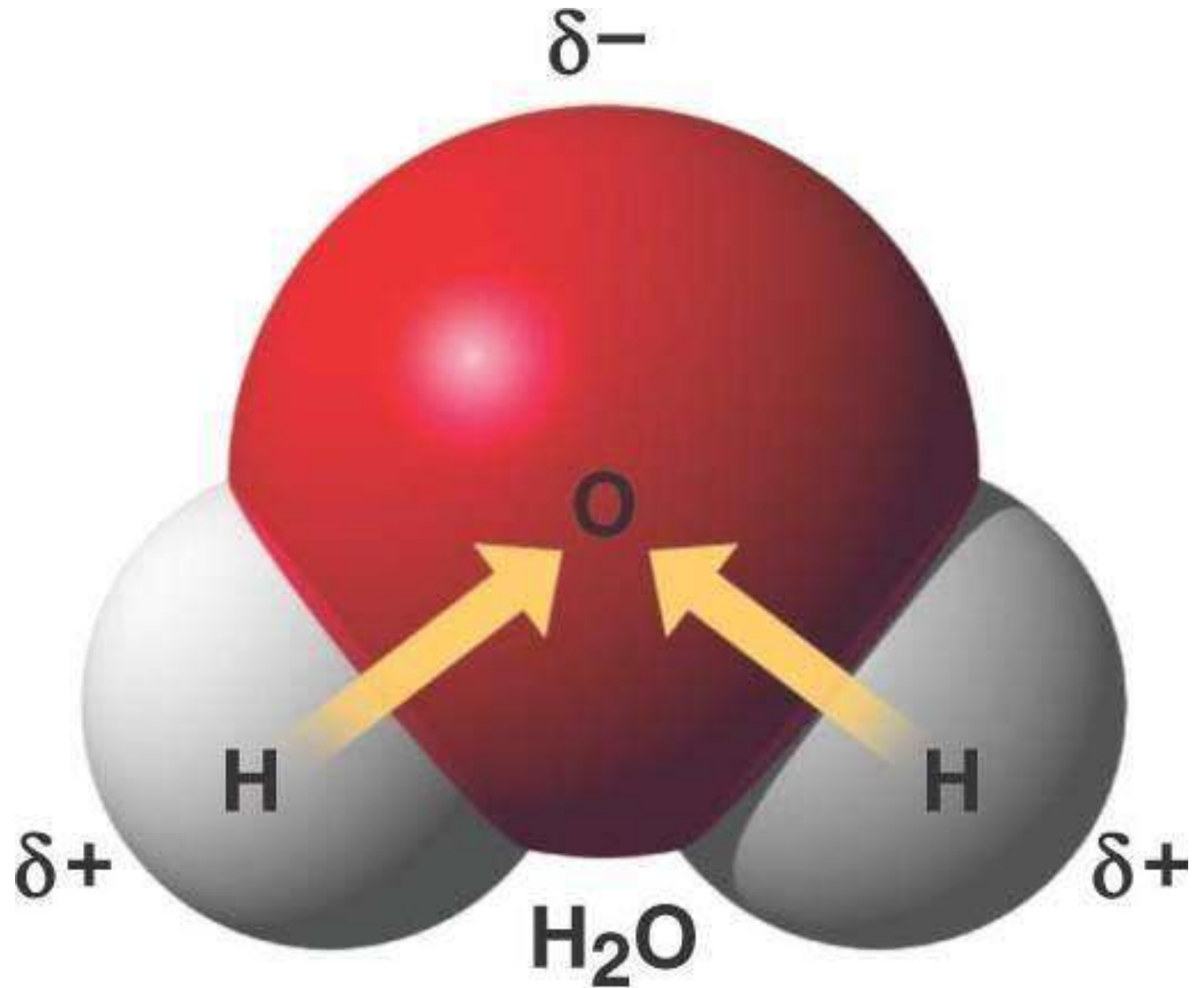
A covalent bond in which electrons are shared equally.

Nonpolar Bonds in an Oxygen Molecule (O_2)



7. Polar bond

A covalent bond in which electrons are shared unequally.



8. Metallic bond

An attraction between a positive metal ion and the electrons surrounding it.

