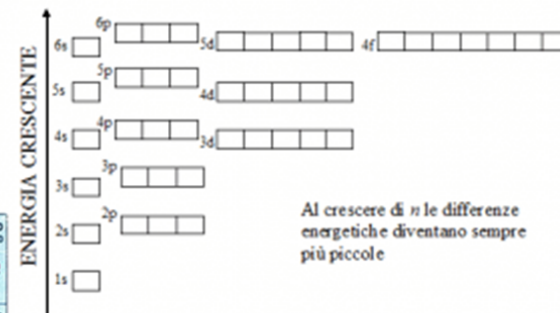


GRUPPO

[illegible]

Al crescere di n le differenze energetiche diventano sempre più piccole

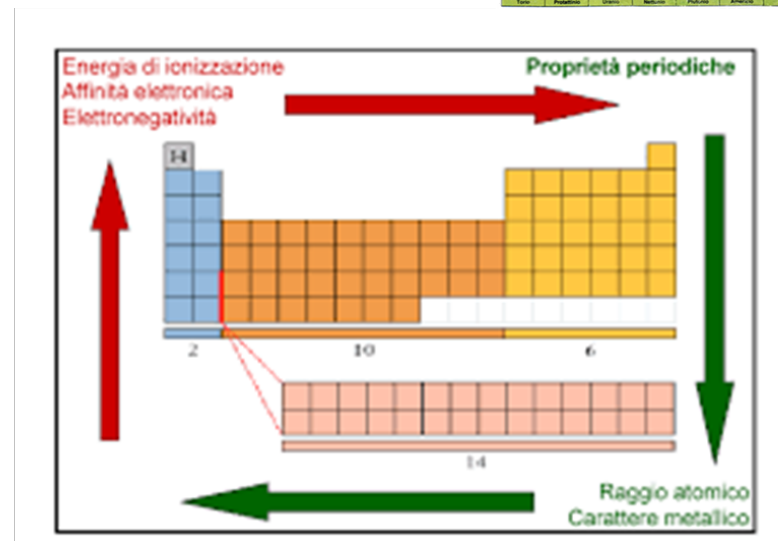
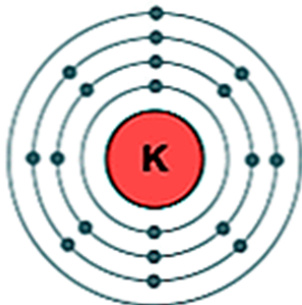
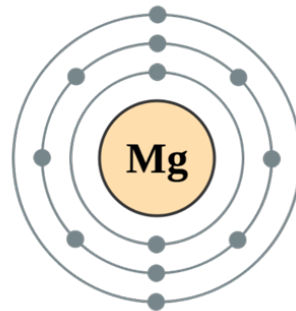
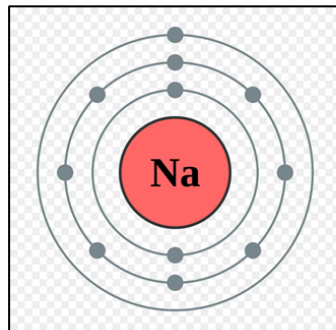
[illegible]

PROPRIETA' PERIODICHE DEGLI ELEMENTI CHIMICI

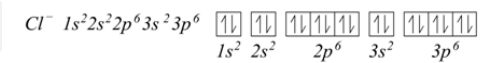
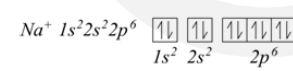
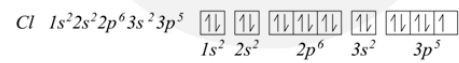
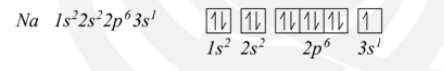
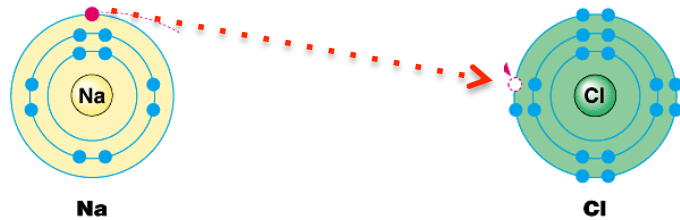
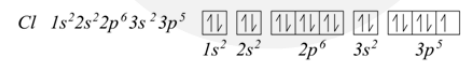
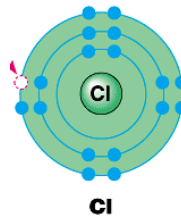
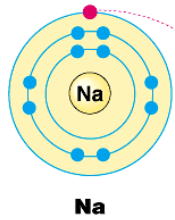
Raggio atomico
Energia di ionizzazione
Affinità elettronica

TAVOLA PERIODICA DEGLI ELEMENTI

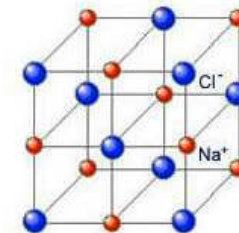
The periodic table displays elements from Hydrogen (1) to Oganesson (118). It is organized into groups (columns) and periods (rows). The noble gases are highlighted in blue at the far right. The transition metals are in the center, and the lanthanides and actinides are shown at the bottom.



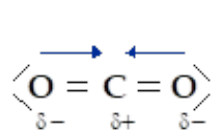
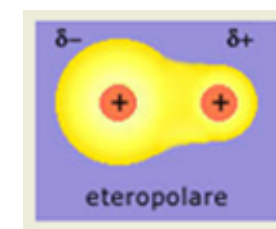
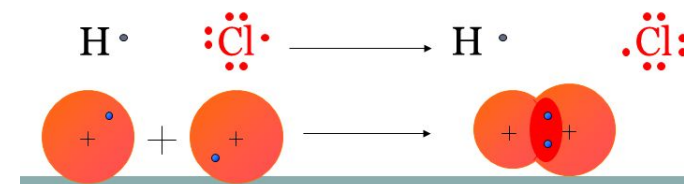
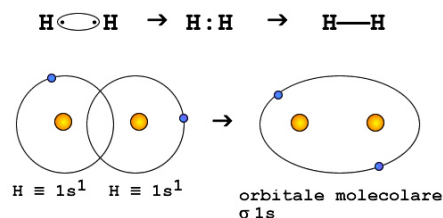
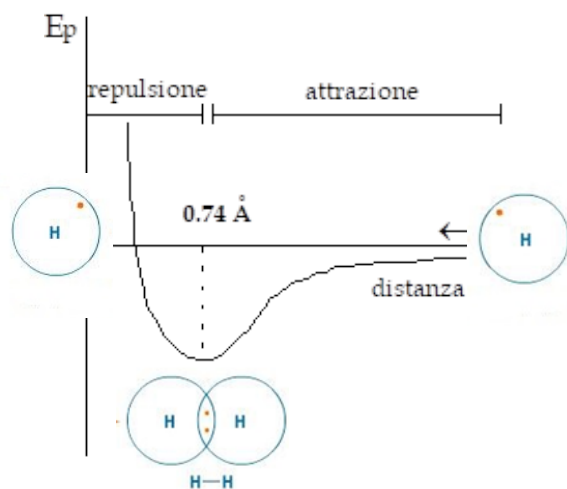
LEGAME IONICO



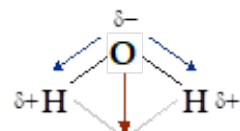
$$F = \frac{q_1 \cdot q_2}{4 \pi \epsilon r^2}$$



LEGAME COVALENTE



molecola apolare
(nessun dipolo)



molecola polare
(dipolo elettrico)

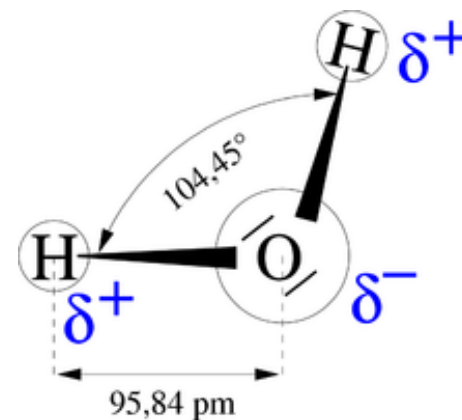
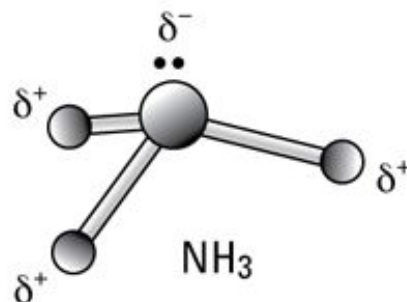
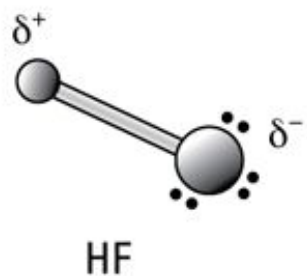
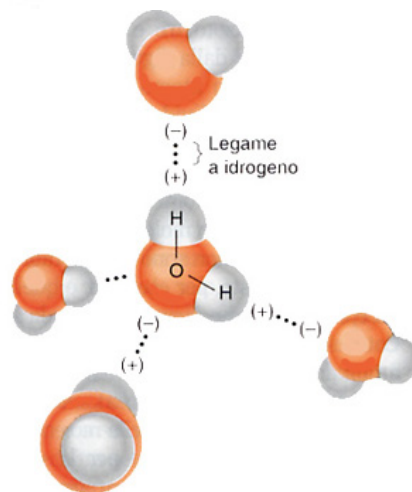
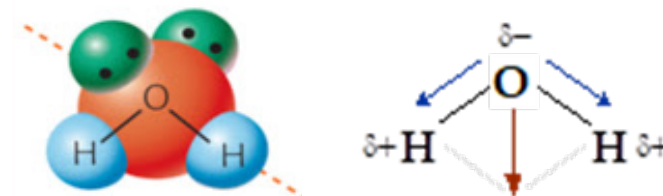
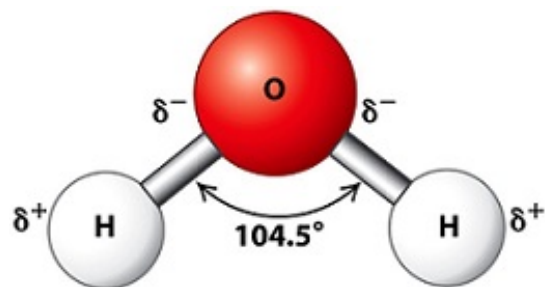
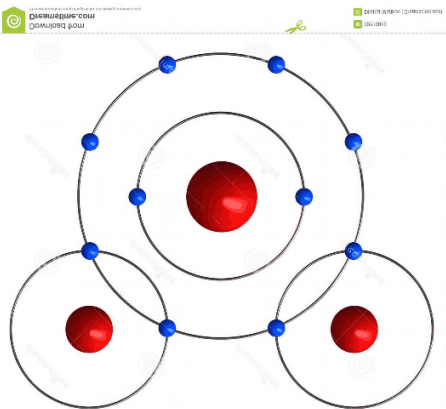
Alcuni valori di elettronegatività

Elettronegatività di alcuni elementi secondo Pauling

H 2.1							
Li 1.0	Be 1.5		B 2.0	C 2.5	N 3.0	O 3.5	F 4.0
Na 0.9	Mg 1.2		Al 1.5	Si 1.8	P 2.1	S 2.5	Cl 3.0
K 0.8	Ca 1.0				As 2.0	Se 2.4	Br 2.8
						Te 2.1	I 2.5

ΔEN	0.2	0.4	0.6	0.8	1.0	1.2	1.4	1.6	1.8	2.0	2.2	2.4	2.6	2.8
% ionicità	1	4	9	15	22	30	39	47	56	63	70	76	82	86

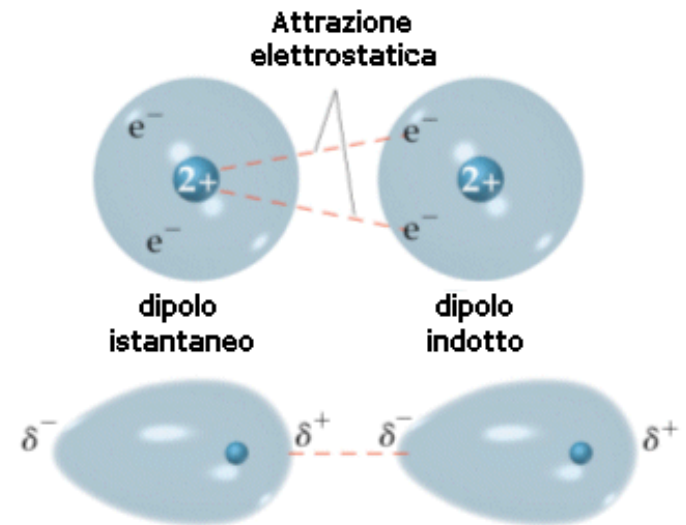
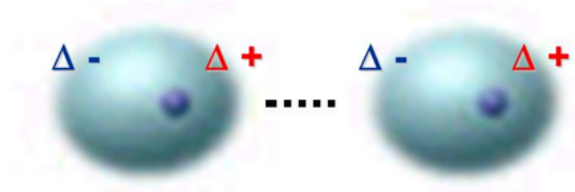
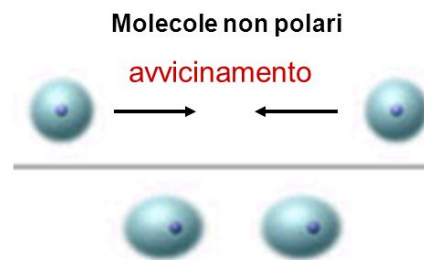
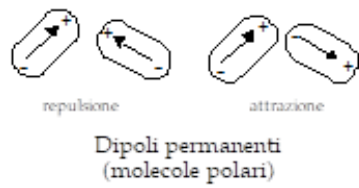
LEGAME IDROGENO



LEGAMI IDROGENO

NO LEGAMI IDROGENO

FORZE DEBOLI DI VAN DER WAALS



SOLUZIONI E CALCOLO DELLA CONCENTRAZIONE

METODO PERCENTUALE:

(attenzione alle unità di misura)

% p/v il peso (p) si riferisce al soluto
 il volume (v) al totale della soluzione

% p/p il peso(p) a numeratore si riferisce al soluto
 il peso(p) a denominatore si riferisce al totale della soluzione

% v/v il volume (v) a numeratore si riferisce al soluto
 il volume (v) a denominatore si riferisce al totale della soluzione

$$\text{molarità} = \frac{\text{moli di soluto}}{\text{litri di soluzione}}$$

$$n^{\circ} \text{ moli} = \frac{\text{massa sostanza (g)}}{M_m \text{ (g/mole)}}$$

$$\text{molalità} = \frac{\text{moli di soluto}}{\text{kg di solvente}}$$

Soluzione fisiologica: 0,9% p/v di NaCl

in 100mL di soluzione ci sono 0,9 g di NaCl

in 100L di soluzione ci sono 0,9 Kg di NaCl

in 100hL di soluzione ci sono 0,9q di NaCl

Calcolare la concentrazione in % p/v di una soluzione preparata con 90g di NaCl (volume soluzione 10L):

$$\% \text{ p/v} = (\text{grammi soluto (90g NaCl)} / \text{volume soluzione (10L)}) \times 100 = (90\text{g} / 10000\text{mL}) \times 100 = 0,9\% \text{ p/v}$$

Preparare 10 litri di una soluzione 0,9% p/v di NaCl

$$\% \text{ p/v} = (\text{grammi soluto (NaCl)} / \text{volume soluzione (10L)}) \times 100 = 0,9 \longrightarrow \text{NaCl(g)} = 0,9 \times 10000 / 100 = 90\text{g}$$

Si pesano 90g di NaCl, si mettono in un contenitore graduato e si aggiunge acqua fino al volume di 10L