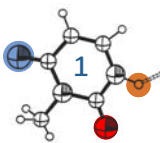


La struttura atomica

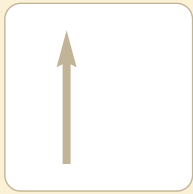
E S E R C I Z I

Svolgi i seguenti esercizi

- 1) Esegui la configurazione elettronica degli elementi partendo dall'idrogeno fino al calcio, schematizzando gli orbitali con dei quadratini.
- 2) Calcola la lunghezza d'onda (λ) di una radiazione elettromagnetica sapendo che la sua frequenza (ν) è $1 \cdot 10^7$ 1/s e la velocità della luce è $3 \cdot 10^8$ m/s.
- 3) Calcola la frequenza (ν) di una radiazione elettromagnetica sapendo che la sua è lunghezza d'onda (λ) è 100 m e la velocità della luce è $3 \cdot 10^8$ m/s.
- 4) Calcola l'energia della radiazione dell'esercizio 2) sapendo che la costante di Planck (h) è $6,626 \cdot 10^{-34}$ J·s.
- 5) Calcola l'energia della radiazione dell'esercizio 3) sapendo che la costante di Planck (h) è $6,626 \cdot 10^{-34}$ J·s.

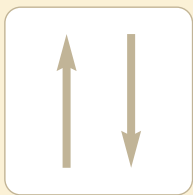


1 a) idrogeno ($Z = 1$)



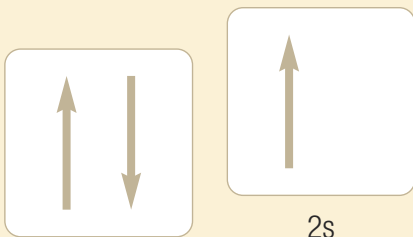
1s

b) elio ($Z = 2$)



1s

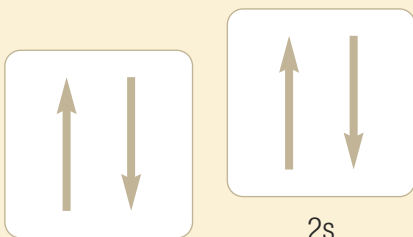
c) litio ($Z = 3$)



1s

2s

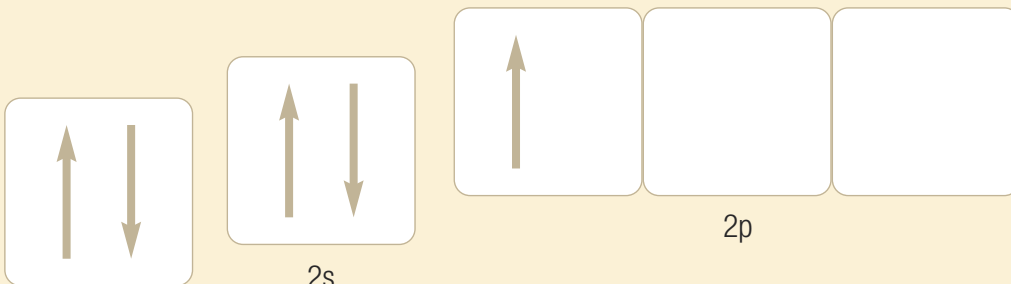
d) berillio ($Z = 4$)



1s

2s

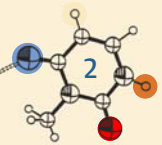
e) boro ($Z = 5$)



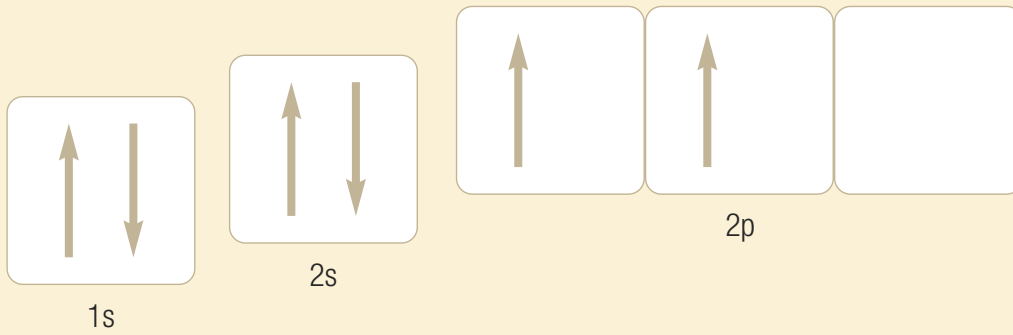
1s

2s

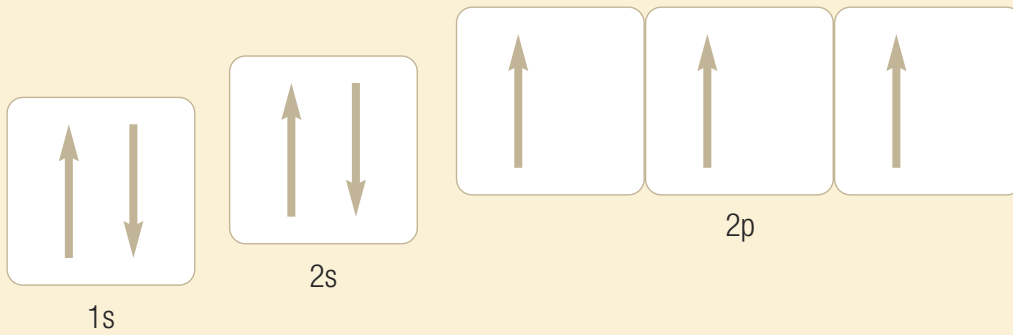
2p



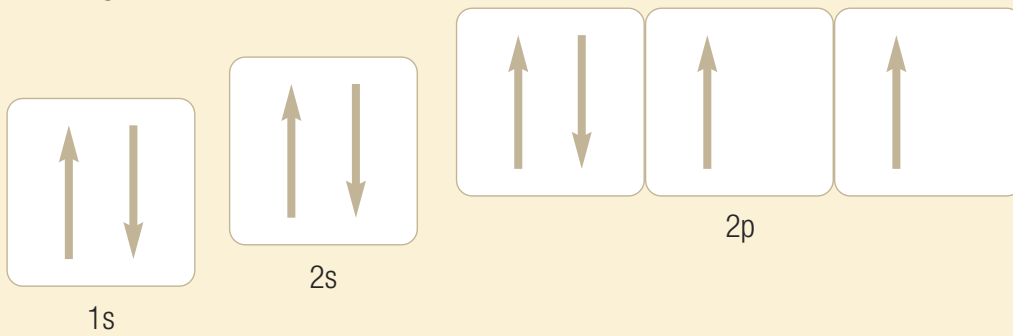
f) carbonio ($Z = 6$)



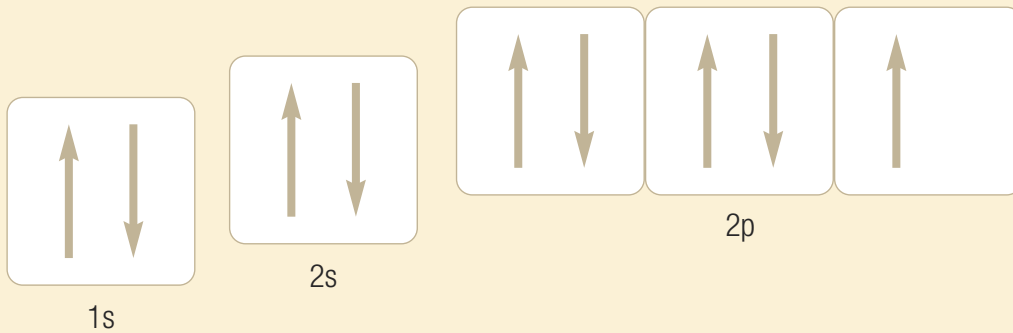
g) azoto ($Z = 7$)



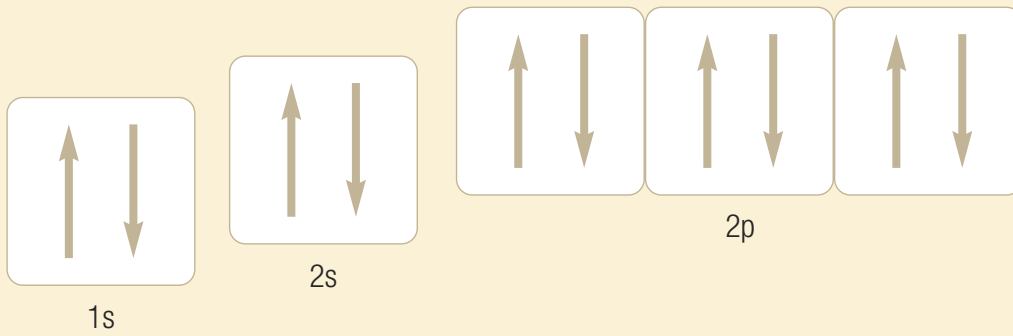
h) ossigeno ($Z = 8$)



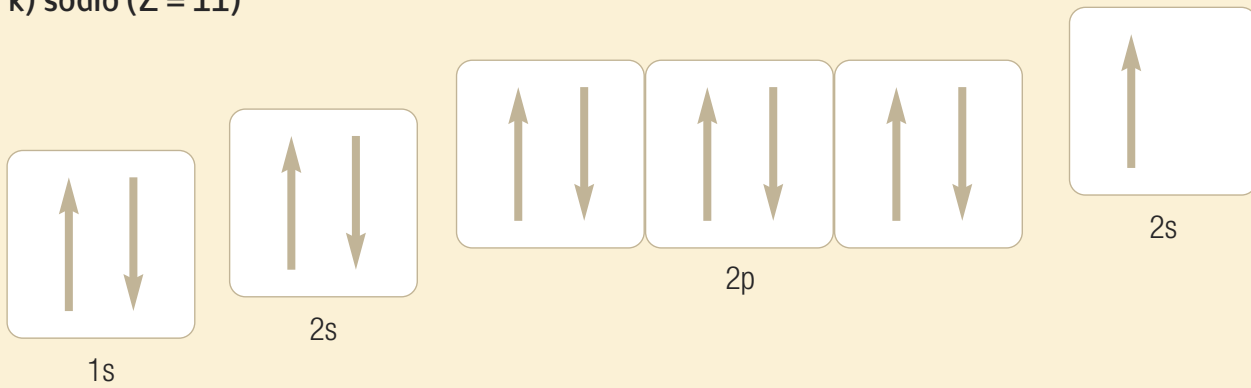
i) fluoro ($Z = 9$)



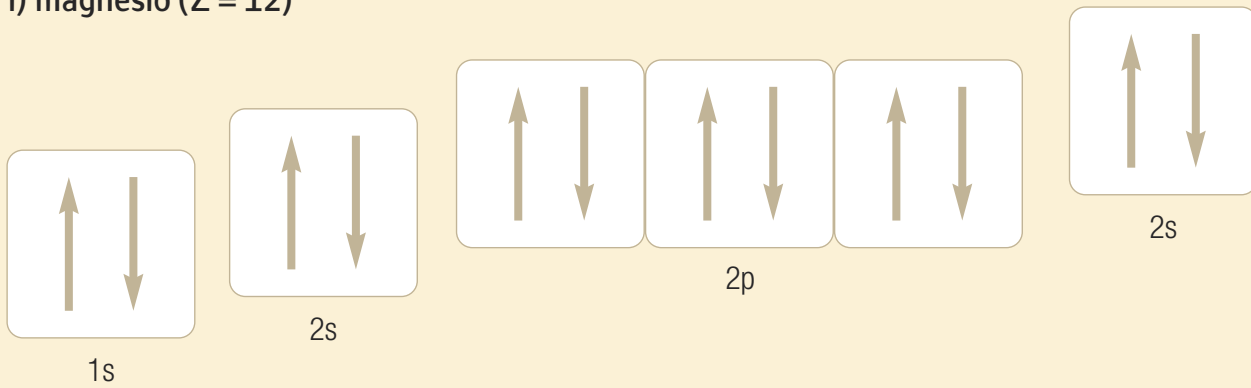
j) neon ($Z = 10$)



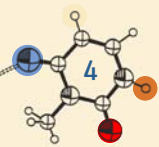
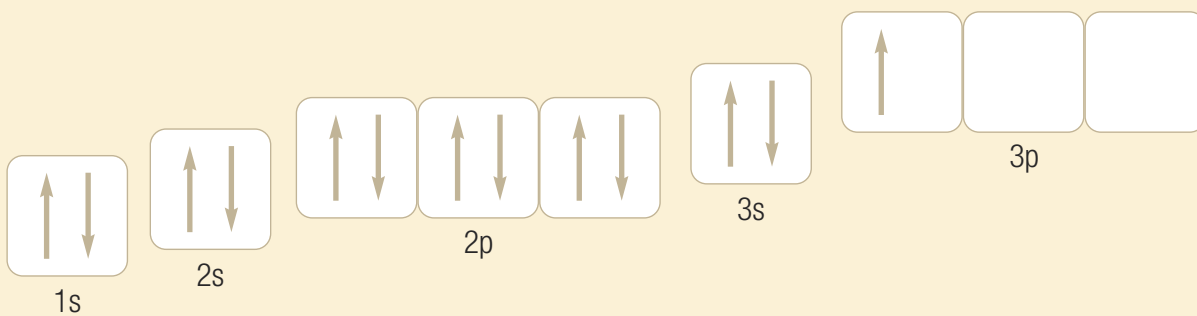
k) sodio ($Z = 11$)



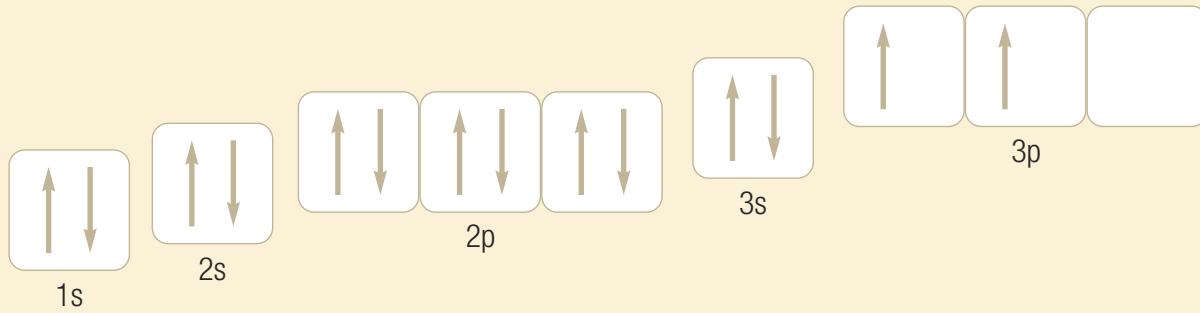
l) magnesio ($Z = 12$)



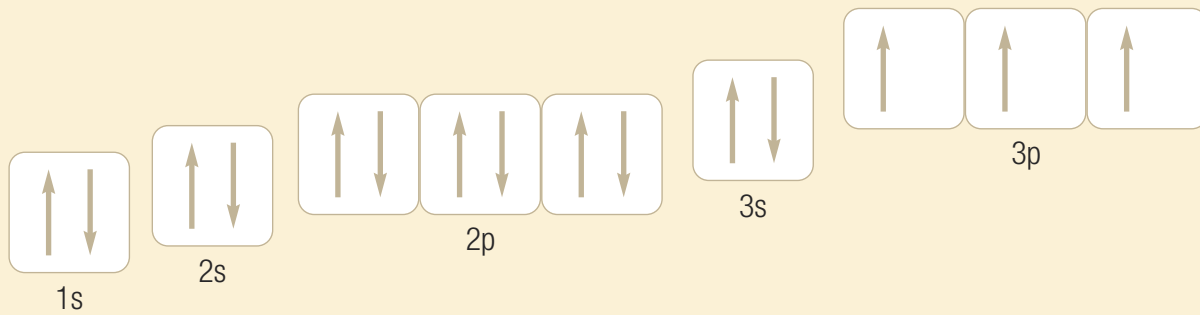
m) alluminio ($Z = 13$)



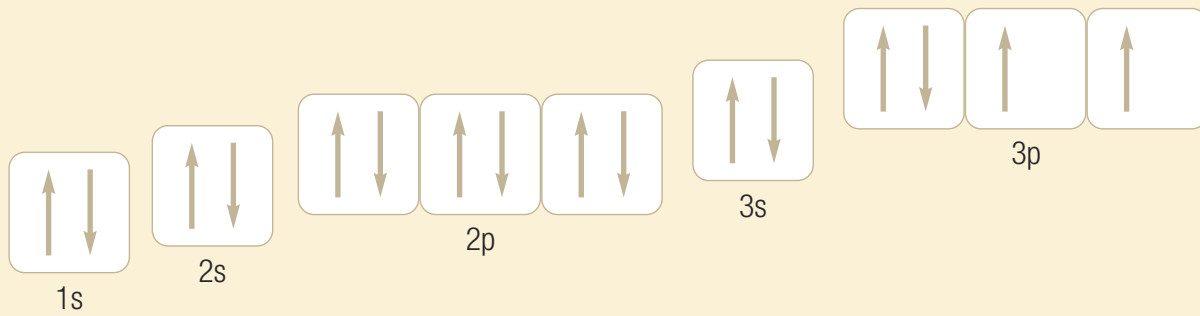
n) silicio (Z = 14)



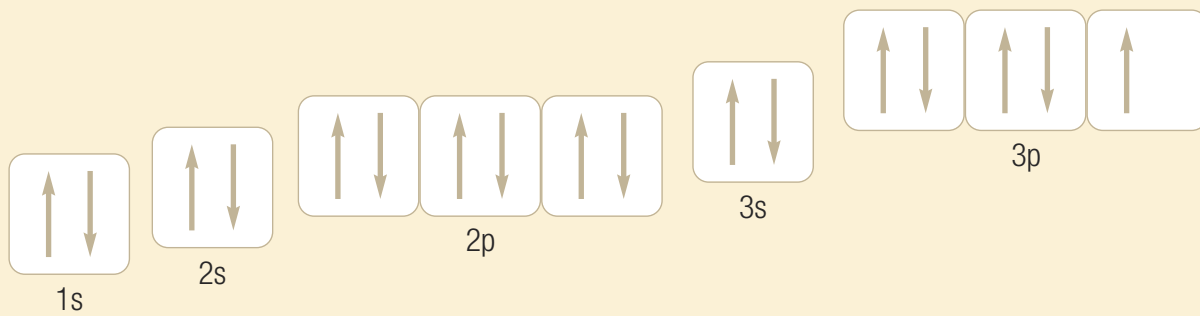
o) fosforo (Z = 15)



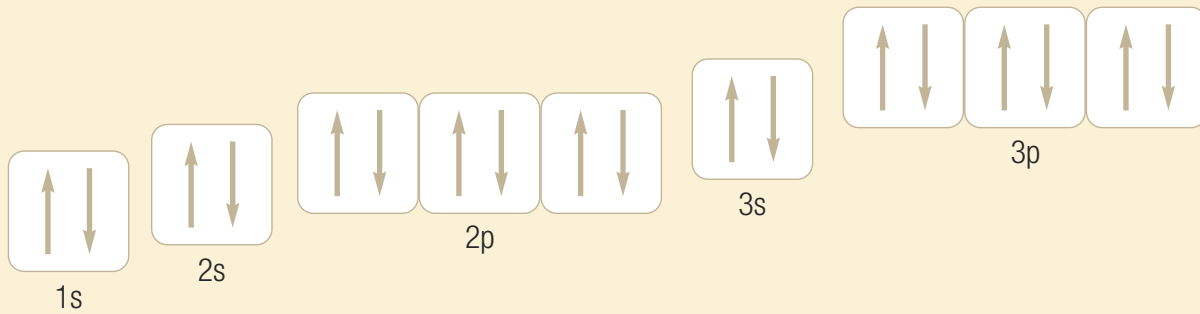
p) zolfo (Z = 16)



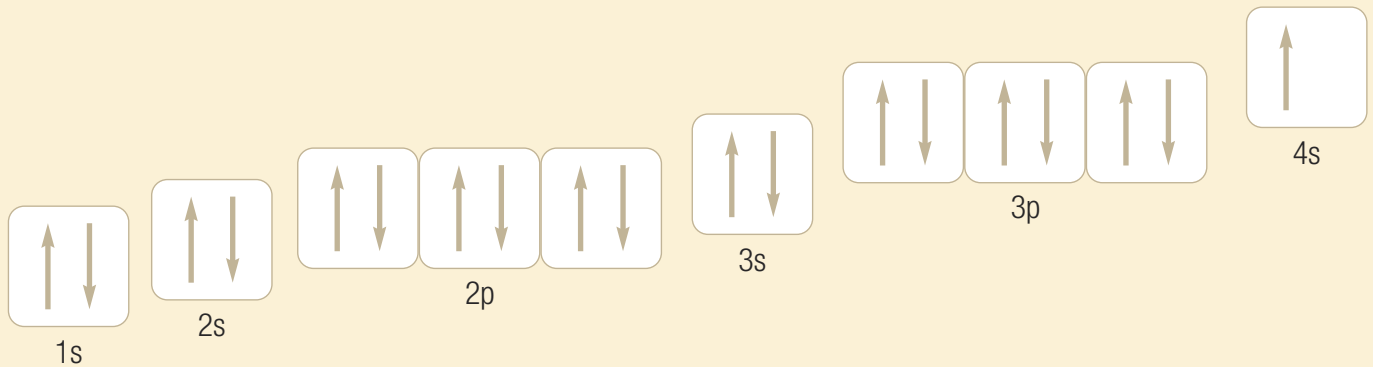
q) cloro (Z = 17)



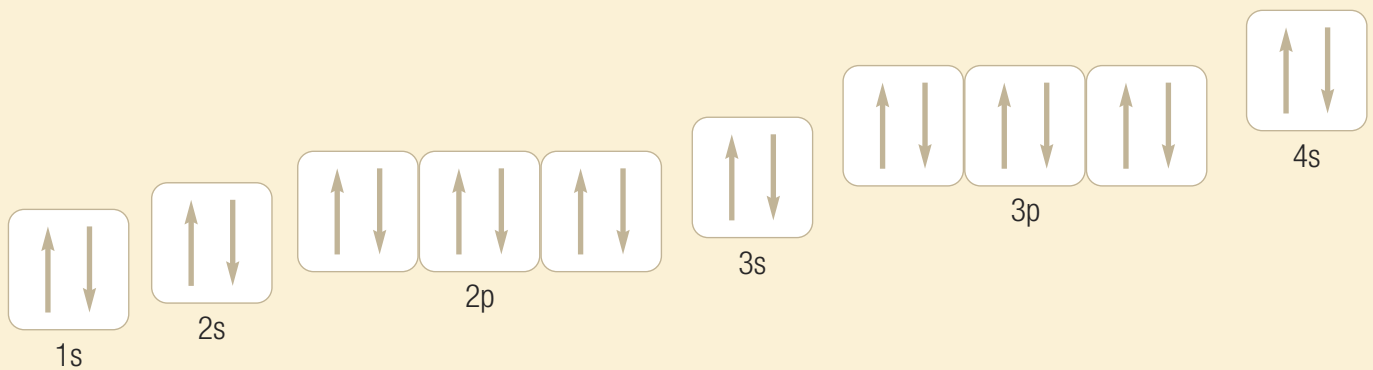
r) argo ($Z = 18$)



s) potassio ($Z = 19$)



t) calcio ($Z = 20$)



2 30 m

3 $3 \cdot 10^6$ 1/s

4 $6,626 \cdot 10^{-27}$ J

5 $1,988 \cdot 10^{-27}$ J

