PROYECTO construyendo mundos

Tabla periódica de los elementos

Santillana
a Sanoma company

GRUPO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
ORBITAL	s^1	s^2	d^1	d^2	d^3	d^4	d^5	d^6	d^7	d^8	d^9	d^{10}	p^1	p^2	p^3	p^4	p^5	p^6
PERIODO																		
1	**1** 1,008 Hidrógeno **H** 0,0899 −259,14 −252,87 13,5984 +1,−1 $1s^1$																	**2** 4,003 Helio **He** 0,1785 −272,2 −268,93 24,5874 0 $1s^2$
2	**3** 6,94 Litio **Li** 0,535 180,54 1342 5,3917 +1 [He]$2s^1$	**4** 9,012 Berilio **Be** 1,848 1287 2470 9,3227 +2 [He]$2s^2$											**5** 10,81 Boro **B** 2,46 2075 4000 8,2980 +3 −3 [He]$2s^2 2p^1$	**6** 12,01 Carbono **C** 2,26 3550 4027 11,2603 +2,4, −4 [He]$2s^2 2p^2$	**7** 14,01 Nitrógeno **N** 1,251 −210,1 −195,79 14,5341 +1,2,3,4,5 −2,−3 [He]$2s^2 2p^3$	**8** 16,00 Oxígeno **O** 1,429 −218,3 −182,9 13,6181 −1,−2 [He]$2s^2 2p^4$	**9** 19,00 Flúor **F** 1,696 −219,6 −188,12 17,4228 −1 [He]$2s^2 2p^5$	**10** 20,18 Neón **Ne** 0,9 −248,59 −246,08 21,5645 0 [He]$2s^2 2p^6$
3	**11** 22,99 Sodio **Na** 0,968 97,72 883 5,1391 +1 [Ne]$3s^1$	**12** 24,31 Magnesio **Mg** 1,738 650 1090 7,6462 +2 [Ne]$3s^2$											**13** 26,98 Aluminio **Al** 2,7 660,32 2519 5,9858 +3 [Ne]$3s^2 3p^1$	**14** 29,09 Silicio **Si** 2,33 1414 2900 8,1517 +2,4, −4 [Ne]$3s^2 3p^2$	**15** 30,97 Fósforo **P** 1,823 44,2 280,5 10,4867 +2,3,4,5, −3 [Ne]$3s^2 3p^3$	**16** 32,06 Azufre **S** 1,96 115,21 444,72 10,3600 +2,4,6, −2 [Ne]$3s^2 3p^4$	**17** 35,45 Cloro **Cl** 3,214 −101,5 −34,04 12,9676 +1,3,5, 7, −1 [Ne]$3s^2 3p^5$	**18** 39,95 Argón **Ar** 1,784 −189,3 −185,8 15,7596 0 [Ne]$3s^2 3p^6$
4	**19** 39,10 Potasio **K** 0,856 63,38 759 4,3407 +1 [Ar]$4s^1$	**20** 40,08 Calcio **Ca** 1,55 842 1484 6,1132 +2 [Ar]$4s^2$	**21** 44,96 Escandio **Sc** 2,985 1541 2830 6,5615 +3 [Ar]$3d^1 4s^2$	**22** 47,87 Titanio **Ti** 4,507 1668 3287 6,8281 +2,3,4 [Ar]$3d^2 4s^2$	**23** 50,94 Vanadio **V** 6,11 1910 3407 6,7462 +2,3, 4,6 [Ar]$3d^3 4s^2$	**24** 52,00 Cromo **Cr** 7,14 1907 2671 6,7665 +2,3,6 [Ar]$3d^5 4s^1$	**25** 54,94 Manganeso **Mn** 7,47 1246 2061 7,4340 +2,3,4, 6,7 [Ar]$3d^5 4s^2$	**26** 55,85 Hierro **Fe** 7,874 1538 2861 7,9024 +2,3 [Ar]$3d^6 4s^2$	**27** 58,93 Cobalto **Co** 8,9 1495 2927 7,8810 +2,3 [Ar]$3d^7 4s^2$	**28** 58,69 Níquel **Ni** 8,908 1455 2913 7,6398 +2,3 [Ar]$3d^8 4s^2$	**29** 63,55 Cobre **Cu** 8,92 1084,62 2927 7,7264 +1,2 [Ar]$3d^{10} 4s^1$	**30** 65,38 Cinc **Zn** 7,14 419,53 907 9,3942 +2 [Ar]$3d^{10} 4s^2$	**31** 69,72 Galio **Ga** 5,904 29,76 2204 5,9993 +3 [Ar]$3d^{10} 4s^2 4p^1$	**32** 72,63 Germanio **Ge** 5,323 938,3 2820 7,8994 +2,4 −4 [Ar]$3d^{10} 4s^2 4p^2$	**33** 74,92 Arsénico **As** 5,727 817 614 9,7886 +3,5 −3 [Ar]$3d^{10} 4s^2 4p^3$	**34** 78,97 Selenio **Se** 4,819 221 685 9,7524 +2,4,6 −2 [Ar]$3d^{10} 4s^2 4p^4$	**35** 79,90 Bromo **Br** 3,12 −7,3 59 11,8138 +1,3,5,7 −1 [Ar]$3d^{10} 4s^2 4p^5$	**36** 83,80 Kriptón **Kr** 3,75 −157,36 −153,22 13,9996 0 [Ar]$3d^{10} 4s^2 4p^6$
5	**37** 85,47 Rubidio **Rb** 1,532 39,31 688 4,1771 +1 [Kr]$5s^1$	**38** 87,62 Estroncio **Sr** 2,63 777 1382 5,6949 +2 [Kr]$5s^2$	**39** 88,91 Itrio **Y** 4,472 1526 3345 6,2173 +3 [Kr]$4d^1 5s^2$	**40** 91,22 Circonio **Zr** 6,511 1855 4409 6,6339 +4 [Kr]$4d^2 5s^2$	**41** 92,91 Niobio **Nb** 8,57 2477 4744 6,7589 +3,5 [Kr]$4d^4 5s^1$	**42** 95,95 Molibdeno **Mo** 10,28 2623 4639 7,0924 +2,3,4, 5,6 [Kr]$4d^5 5s^1$	**43** (97) Tecnecio **Tc** 11,5 2157 4265 7,28 +4,7 [Kr]$4d^5 5s^2$	**44** 101,07 Rutenio **Ru** 12,37 2334 4150 7,3605 +2,3,4, 6,8 [Kr]$4d^7 5s^1$	**45** 102,9 Rodio **Rh** 12,45 1964 3695 7,4589 +2,3,4 [Kr]$4d^8 5s^1$	**46** 106,4 Paladio **Pd** 12,023 1554,9 2963 8,3369 +2,4 [Kr]$4d^{10}$	**47** 107,9 Plata **Ag** 10,49 961,78 2162 7,5762 +1 [Kr]$4d^{10} 5s^1$	**48** 112,4 Cadmio **Cd** 8,65 321,07 767 8,9938 +2 [Kr]$4d^{10} 5s^2$	**49** 114,8 Indio **In** 7,31 156,6 2072 5,7864 +3 [Kr]$4d^{10} 5s^2 5p^1$	**50** 118,7 Estaño **Sn** 7,31 231,93 2602 7,3439 +2,4 [Kr]$4d^{10} 5s^2 5p^2$	**51** 121,8 Antimonio **Sb** 6,697 630,63 1587 8,6084 +3,5 −3 [Kr]$4d^{10} 5s^2 5p^3$	**52** 127,6 Teluro **Te** 6,24 449,51 988 9,0096 +2,4,6 −2 [Kr]$4d^{10} 5s^2 5p^4$	**53** 126,9 Yodo **I** 4,94 113,7 184,3 10,4513 +1,3,5,7 −1 [Kr]$4d^{10} 5s^2 5p^5$	**54** 131,3 Xenón **Xe** 5,9 −111,8 −108 12,1298 0 [Kr]$4d^{10} 5s^2 5p^6$
6	**55** 132,9 Cesio **Cs** 1,879 28,44 671 3,8939 +1 [Xe]$6s^1$	**56** 137,3 Bario **Ba** 3,51 727 1870 5,2117 +2 [Xe]$6s^2$	**57-71** Lantanoides	**72** 178,5 Hafnio **Hf** 13,31 2233 4603 6,8251 +4 [Xe]$4f^{14} 5d^2 6s^2$	**73** 180,9 Tántalo **Ta** 16,65 3017 5458 7,5496 +5 [Xe]$4f^{14} 5d^3 6s^2$	**74** 183,8 Wolframio **W** 19,25 3422 5550 7,8640 +2,3,4, 5,6 [Xe]$4f^{14} 5d^4 6s^2$	**75** 186,2 Renio **Re** 21,02 3186 5596 7,8335 +2,4,6, 7, −1 [Xe]$4f^{14} 5d^5 6s^2$	**76** 190,2 Osmio **Os** 22,61 3033 5012 8,4382 +2,3,4, 6,8 [Xe]$4f^{14} 5d^6 6s^2$	**77** 192,2 Iridio **Ir** 22,65 2466 4428 8,9670 +2,3,4, 6 [Xe]$4f^{14} 5d^7 6s^2$	**78** 195,1 Platino **Pt** 21,09 1768,3 3825 8,9588 +2,4 [Xe]$4f^{14} 5d^9 6s^1$	**79** 197,0 Oro **Au** 19,3 1064,18 2856 9,2255 +1,3 [Xe]$4f^{14} 5d^{10} 6s^1$	**80** 200,6 Mercurio **Hg** 13,534 −38,83 356,73 10,4375 +1,2 [Xe]$4f^{14} 5d^{10} 6s^2$	**81** 204,4 Talio **Tl** 11,85 304 1473 6,1082 +1,3 [Xe]$4f^{14} 5d^{10} 6s^2 6p^1$	**82** 207,2 Plomo **Pb** 11,34 327,46 1749 7,4167 +2,4 [Xe]$4f^{14} 5d^{10} 6s^2 6p^2$	**83** 209,0 Bismuto **Bi** 9,78 271,3 1564 7,2855 +3,5 [Xe]$4f^{14} 5d^{10} 6s^2 6p^3$	**84** (209) Polonio **Po** 9,196 254 962 8,414 +2,4 [Xe]$4f^{14} 5d^{10} 6s^2 6p^4$	**85** (210) Astato **At** - 302 - - +1,3,5, 7, −1 [Xe]$4f^{14} 5d^{10} 6s^2 6p^5$	**86** (222) Radón **Rn** 9,73 −71 −61,7 10,7485 0 [Xe]$4f^{14} 5d^{10} 6s^2 6p^6$
7	**87** (223) Francio **Fr** - - - 4,0727 +1 [Rn]$7s^1$	**88** (226) Radio **Ra** 5 700 1737 5,2784 +2 [Rn]$7s^2$	**89-103** Actinoides	**104** (267) Rutherfordio **Rf** - - - -	**105** (270) Dubnio **Db** - - - -	**106** (269) Seaborgio **Sg** - - - -	**107** (270) Bohrio **Bh** - - - -	**108** (269) Hassio **Hs** - - - -	**109** (278) Meitnerio **Mt** - - - -	**110** (281) Darmstadtio **Ds** - - - -	**111** (284) Roentgenio **Rg** - - - -	**112** (286) Copernicio **Cn** - - - -	**113** (285) Nihonio **Nh** - - - -	**114** (289) Flerovio **Fl** - - - -	**115** (289) Moscovio **Mc** - - - -	**116** (293) Livermorio **Lv** - - - -	**117** (293) Téneso **Ts** - - - -	**118** (294) Oganesón **Og** - - - -

Nombre
Número atómico
Símbolo
Rojo: gas
Azul: líquido
Negro: sólido
Hueco: artificial
A 20 °C
Números de oxidación
Masa atómica (u)
Densidad (sólidos y líquidos: g/cm³; gases a 20 °C: g/L)
Temperatura de fusión (°C)
Temperatura de ebullición (°C)
1.ª energía de ionización (electronvoltios, eV)
Configuración electrónica

$1\ u = 1{,}66 \cdot 10^{-27}\ kg$
$1\ eV = 1{,}602 \cdot 10^{-19}\ J$

		f¹	f²	f³	f⁴	f⁵	f⁶	f⁷	f⁸	f⁹	f¹⁰	f¹¹	f¹²	f¹³	f¹⁴	ORBITAL
Lantanoides →	6	**57** 138,9 Lantano **La** 6,146 920 3464 5,5769 +3 [Xe]$5d^1 6s^2$	**58** 140,1 Cerio **Ce** 6,689 798 3360 5,5387 +3,4 [Xe]$4f^1 5d^1 6s^2$	**59** 140,9 Praseodimio **Pr** 6,64 931 3290 5,473 +3,4 [Xe]$4f^3 6s^2$	**60** 144,2 Neodimio **Nd** 7,01 1021 3100 5,5250 +3 [Xe]$4f^4 6s^2$	**61** (145) Prometio **Pm** 7,264 1100 3000 5,582 +3 [Xe]$4f^5 6s^2$	**62** 150,4 Samario **Sm** 7,353 1072 1803 5,6437 +2,3 [Xe]$4f^6 6s^2$	**63** 152,0 Europio **Eu** 5,244 822 1527 5,6704 +2,3 [Xe]$4f^7 6s^2$	**64** 157,3 Gadolinio **Gd** 7,901 1313 3250 6,1498 +3 [Xe]$4f^7 5d^1 6s^2$	**65** 158,9 Terbio **Tb** 8,219 1356 3230 5,8638 +3,4 [Xe]$4f^9 6s^2$	**66** 162,5 Disprosio **Dy** 8,551 1412 2567 5,9389 +3 [Xe]$4f^{10} 6s^2$	**67** 164,9 Holmio **Ho** 8,795 1474 2700 6,0215 +3 [Xe]$4f^{11} 6s^2$	**68** 167,3 Erbio **Er** 9,066 1497 2868 6,1077 +3 [Xe]$4f^{12} 6s^2$	**69** 168,9 Tulio **Tm** 9,321 1545 1950 6,1843 +2,3 [Xe]$4f^{13} 6s^2$	**70** 173,0 Iterbio **Yb** 6,57 819 1196 6,2542 +2,3 [Xe]$4f^{14} 6s^2$	**71** 175,0 Lutecio **Lu** 9,841 1663 3402 5,4259 +3 [Xe]$4f^{14} 5d^1 6s^2$	
Actinoides →	7	**89** (227) Actinio **Ac** 10,07 1050 3200 5,17 +3 [Rn]$6d^1 7s^2$	**90** 232,0 Torio **Th** 11,724 1750 4820 6,3067 +4 [Rn]$6d^2 7s^2$	**91** 231,0 Protactinio **Pa** 15,37 1572 4000 5,89 +4,5 [Rn]$5f^2 6d^1 7s^2$	**92** 238,0 Uranio **U** 19,05 1135 3927 6,1941 +3,4,5, 6 [Rn]$5f^3 6d^1 7s^2$	**93** (237) Neptunio **Np** 20,45 644 4000 6,2657 +3,4,5, 6 [Rn]$5f^4 6d^1 7s^2$	**94** (244) Plutonio **Pu** 19,816 640 3230 6,0260 +3,4,5, 6 [Rn]$5f^6 7s^2$	**95** (243) Americio **Am** - 1176 2011 5,9738 +3,4,5, 6 [Rn]$5f^7 7s^2$	**96** (247) Curio **Cm** 13,51 1345 3110 5,9914 +3 [Rn]$5f^7 6d^1 7s^2$	**97** (247) Berkelio **Bk** 14,78 1050 - 6,1979 +3,4 [Rn]$5f^9 7s^2$	**98** (251) Californio **Cf** 15,1 900 - 6,2817 +3 [Rn]$5f^{10} 7s^2$	**99** (252) Einstenio **Es** - 860 - 6,42 +3 [Rn]$5f^{11} 7s^2$	**100** (257) Fermio **Fm** - 1527 - 6,50 +3 [Rn]$5f^{12} 7s^2$	**101** (258) Mendelevio **Md** - 827 - 6,58 +2,3 [Rn]$5f^{13} 7s^2$	**102** (259) Nobelio **No** - 827 - 6,65 +2,3 [Rn]$5f^{14} 7s^2$	**103** (262) Lawrencio **Lr** - 1627 - 4,9 +3 [Rn]$5f^{14} 6d^1 7s^2$	

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