

PERIODIC TABLE OF ELEMENTS



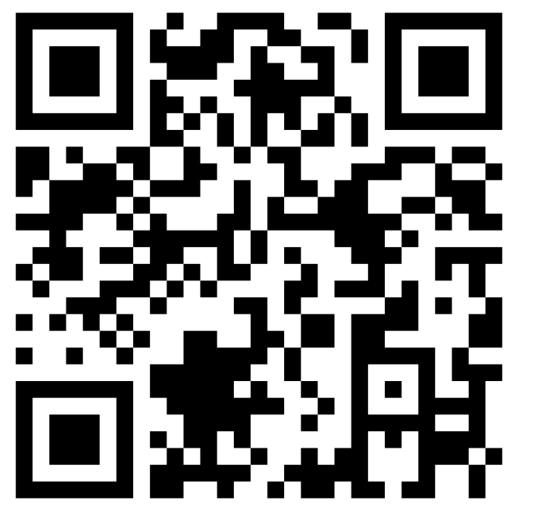
(An ISO 9001:2015 & ISO 14001:2015 Certified Company)

Group	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18																														
	IA	IIA	IIIB	IVB	VB	VIB	VII B	VIII			IB	IIB	IIIA	IVA	VA	VIA	VIIA	VIIIA																														
1	1 H Hydrogen 1.008 1s 13.5984																	2 He Helium 4.0026 1s ² 24.5874																														
2	3 Li Lithium 6.94 1s ² 2s 5.3917	4 Be Beryllium 9.0122 1s ² 2s ² 9.3227											5 B Boron 10.81 1s ² 2s ² 2p 8.2980	6 C Carbon 12.011 1s ² 2s ² 2p ² 11.2603	7 N Nitrogen 14.007 1s ² 2s ² 2p ³ 14.5341	8 O Oxygen 15.999 1s ² 2s ² 2p ⁴ 13.6181	9 F Fluorine 18.998 1s ² 2s ² 2p ⁵ 17.4228	10 Ne Neon 20.180 1s ² 2s ² 2p ⁶ 21.5645																														
3	11 Na Sodium 22.990 [Ne]3s 5.1391	12 Mg Magnesium 24.305 [Ne]3s ² 7.6462											13 Al Aluminum 26.982 [Ne]3s ² 3p 5.9858	14 Si Silicon 28.085 [Ne]3s ² 3p ² 8.1517	15 P Phosphorus 30.974 [Ne]3s ² 3p ³ 10.4867	16 S Sulfur 32.06 [Ne]3s ² 3p ⁴ 10.3600	17 Cl Chlorine 35.45 [Ne]3s ² 3p ⁵ 12.9676	18 Ar Argon 39.948 [Ne]3s ² 3p ⁶ 15.7596																														
4	19 K Potassium 39.098 [Ar]4s 4.3407	20 Ca Calcium 40.078 [Ar]4s ² 6.1132	21 Sc Scandium 44.956 [Ar]3d4s ² 6.5615	22 Ti Titanium 47.867 [Ar]3d ² 4s ² 6.8281	23 V Vanadium 50.942 [Ar]3d ³ 4s ² 6.7462	24 Cr Chromium 51.996 [Ar]3d ⁵ 4s 6.7665	25 Mn Manganese 54.938 [Ar]3d ⁵ 4s ² 7.4340	26 Fe Iron 55.845 [Ar]3d ⁶ 4s ² 7.9025	27 Co Cobalt 58.933 [Ar]3d ⁷ 4s ² 7.8810	28 Ni Nickel 58.693 [Ar]3d ⁸ 4s ² 7.6399	29 Cu Copper 63.546 [Ar]3d ¹⁰ 4s 7.7264	30 Zn Zinc 65.38 [Ar]3d ¹⁰ 4s ² 9.3942	31 Ga Gallium 69.723 [Ar]3d ¹⁰ 4s ² 4p 5.9993	32 Ge Germanium 72.630 [Ar]3d ¹⁰ 4s ² 4p ² 7.8994	33 As Arsenic 74.922 [Ar]3d ¹⁰ 4s ² 4p ³ 9.7886	34 Se Selenium 78.971 [Ar]3d ¹⁰ 4s ² 4p ⁴ 9.7524	35 Br Bromine 79.904 [Ar]3d ¹⁰ 4s ² 4p ⁵ 11.8138	36 Kr Krypton 83.798 [Ar]3d ¹⁰ 4s ² 4p ⁶ 13.9996																														
5	37 Rb Rubidium 85.468 [Kr]5s 4.1771	38 Sr Strontium 87.62 [Kr]5s ² 5.6949	39 Y Yttrium 88.906 [Kr]4d5s ² 6.2173	40 Zr Zirconium 91.224 [Kr]4d ² 5s ² 6.6341	41 Nb Niobium 92.906 [Kr]4d ⁴ 5s 6.7589	42 Mo Molybdenum 95.95 [Kr]4d ⁵ 5s 7.0924	43 Tc Technetium (97) [Kr]4d ⁵ 5s ² 7.1194	44 Ru Ruthenium 101.07 [Kr]4d ⁷ 5s 7.3605	45 Rh Rhodium 102.91 [Kr]4d ⁸ 5s 7.4589	46 Pd Palladium 106.42 [Kr]4d ¹⁰ 8.3369	47 Ag Silver 107.87 [Kr]4d ¹⁰ 5s 7.5762	48 Cd Cadmium 112.41 [Kr]4d ¹⁰ 5s ² 8.9938	49 In Indium 114.82 [Kr]4d ¹⁰ 5s ² 5p 5.7864	50 Sn Tin 118.71 [Kr]4d ¹⁰ 5s ² 5p ² 7.3439	51 Sb Antimony 121.76 [Kr]4d ¹⁰ 5s ² 5p ³ 8.6084	52 Te Tellurium 127.60 [Kr]4d ¹⁰ 5s ² 5p ⁴ 9.0097	53 I Iodine 126.90 [Kr]4d ¹⁰ 5s ² 5p ⁵ 10.4513	54 Xe Xenon 131.29 [Kr]4d ¹⁰ 5s ² 5p ⁶ 12.1298																														
6	55 Cs Cesium 132.91 [Xe]6s 3.8939	56 Ba Barium 137.33 [Xe]6s ² 5.2117		72 Hf Hafnium 178.49 [Xe]4f ¹⁴ 5d ² 6s ² 6.8251	73 Ta Tantalum 180.95 [Xe]4f ¹⁴ 5d ³ 6s ² 7.5496	74 W Tungsten 183.84 [Xe]4f ¹⁴ 5d ⁴ 6s ² 7.8640	75 Re Rhenium 186.21 [Xe]4f ¹⁴ 5d ⁵ 6s ² 7.8335	76 Os Osmium 190.23 [Xe]4f ¹⁴ 5d ⁶ 6s ² 8.4382	77 Ir Iridium 192.22 [Xe]4f ¹⁴ 5d ⁷ 6s ² 8.9670	78 Pt Platinum 195.08 [Xe]4f ¹⁴ 5d ⁹ 6s 8.9588	79 Au Gold 196.97 [Xe]4f ¹⁴ 5d ¹⁰ 6s 9.2256	80 Hg Mercury 200.59 [Xe]4f ¹⁴ 5d ¹⁰ 6s ² 10.4375	81 Tl Thallium 204.38 [Hg]6p 6.1083	82 Pb Lead 207.2 [Hg]6p ² 7.4167	83 Bi Bismuth 208.98 [Hg]6p ³ 7.2855	84 Po Polonium (209) [Hg]6p ⁴ 8.414	85 At Astatine (210) [Hg]6p ⁵ 9.3175	86 Rn Radon (222) [Hg]6p ⁶ 10.7485																														
7	87 Fr Francium (223) [Rn]7s 4.0727	88 Ra Radium (226) [Rn]7s ² 5.2784		104 Rf Rutherfordium (267) [Rn]5f ¹⁴ 6d ² 7s ² 6.02	105 Db Dubnium (268) [Rn]5f ¹⁴ 6d ³ 7s ² 6.8	106 Sg Seaborgium (269) [Rn]5f ¹⁴ 6d ⁴ 7s ² 7.8	107 Bh Bohrium (270) [Rn]5f ¹⁴ 6d ⁵ 7s ² 7.7	108 Hs Hassium (269) [Rn]5f ¹⁴ 6d ⁶ 7s ² 7.6	109 Mt Meitnerium (278)	110 Ds Darmstadtium (281)	111 Rg Roentgenium (282)	112 Cn Copernicium (285)	113 Nh Nihonium (286)	114 Fl Flerovium (289)	115 Mc Moscovium (289)	116 Lv Livermorium (293)	117 Ts Tennessine (294)	118 Og Oganesson (294)																														
			<table border="1"> <tr> <td rowspan="2">Lanthanides</td> <td>57 La Lanthanum 138.91 [Xe]5d6s² 5.5769</td> <td>58 Ce Cerium 140.12 [Xe]4f5d6s² 5.5386</td> <td>59 Pr Praseodymium 140.91 [Xe]4f³6s² 5.4702</td> <td>60 Nd Neodymium 144.24 [Xe]4f⁴6s² 5.5250</td> <td>61 Pm Promethium (145) [Xe]4f⁵6s² 5.577</td> <td>62 Sm Samarium 150.36 [Xe]4f⁶6s² 5.6437</td> <td>63 Eu Europium 151.96 [Xe]4f⁷6s² 5.6704</td> <td>64 Gd Gadolinium 157.25 [Xe]4f⁷5d6s² 6.1498</td> <td>65 Tb Terbium 158.93 [Xe]4f⁹6s² 5.9391</td> <td>66 Dy Dysprosium 162.50 [Xe]4f¹⁰6s² 6.1077</td> <td>67 Ho Holmium 164.93 [Xe]4f¹¹6s² 6.0215</td> <td>68 Er Erbium 167.26 [Xe]4f¹²6s² 6.1843</td> <td>69 Tm Thulium 168.93 [Xe]4f¹³6s² 6.1843</td> <td>70 Yb Ytterbium 173.05 [Xe]4f¹⁴6s² 6.2542</td> <td>71 Lu Lutetium 174.97 [Xe]4f¹⁴5d6s² 5.4259</td> </tr> <tr> <td>Actinides</td> <td>89 Ac Actinium (227) [Rn]6d7s² 5.3802</td> <td>90 Th Thorium 232.04 [Rn]6d²7s² 6.3067</td> <td>91 Pa Protactinium 231.04 [Rn]5f²6d7s² 5.89</td> <td>92 U Uranium 238.03 [Rn]5f³6d7s² 6.1941</td> <td>93 Np Neptunium (237) [Rn]5f⁴6d7s² 6.2655</td> <td>94 Pu Plutonium (244) [Rn]5f⁶7s² 6.0258</td> <td>95 Am Americium (243) [Rn]5f⁷7s² 5.9738</td> <td>96 Cm Curium (247) [Rn]5f⁷6d7s² 5.9914</td> <td>97 Bk Berkelium (247) [Rn]5f⁹7s² 6.1978</td> <td>98 Cf Californium (251) [Rn]5f¹⁰7s² 6.2817</td> <td>99 Es Einsteinium (252) [Rn]5f¹¹7s² 6.3676</td> <td>100 Fm Fermium (257) [Rn]5f¹²7s² 6.50</td> <td>101 Md Mendelevium (258) [Rn]5f¹³7s² 6.58</td> <td>102 No Nobelium (259) [Rn]5f¹⁴7s² 6.66</td> <td>103 Lr Lawrencium (266) [Rn]5f¹⁴7s²7p 4.96</td> </tr> </table>														Lanthanides	57 La Lanthanum 138.91 [Xe]5d6s ² 5.5769	58 Ce Cerium 140.12 [Xe]4f5d6s ² 5.5386	59 Pr Praseodymium 140.91 [Xe]4f ³ 6s ² 5.4702	60 Nd Neodymium 144.24 [Xe]4f ⁴ 6s ² 5.5250	61 Pm Promethium (145) [Xe]4f ⁵ 6s ² 5.577	62 Sm Samarium 150.36 [Xe]4f ⁶ 6s ² 5.6437	63 Eu Europium 151.96 [Xe]4f ⁷ 6s ² 5.6704	64 Gd Gadolinium 157.25 [Xe]4f ⁷ 5d6s ² 6.1498	65 Tb Terbium 158.93 [Xe]4f ⁹ 6s ² 5.9391	66 Dy Dysprosium 162.50 [Xe]4f ¹⁰ 6s ² 6.1077	67 Ho Holmium 164.93 [Xe]4f ¹¹ 6s ² 6.0215	68 Er Erbium 167.26 [Xe]4f ¹² 6s ² 6.1843	69 Tm Thulium 168.93 [Xe]4f ¹³ 6s ² 6.1843	70 Yb Ytterbium 173.05 [Xe]4f ¹⁴ 6s ² 6.2542	71 Lu Lutetium 174.97 [Xe]4f ¹⁴ 5d6s ² 5.4259	Actinides	89 Ac Actinium (227) [Rn]6d7s ² 5.3802	90 Th Thorium 232.04 [Rn]6d ² 7s ² 6.3067	91 Pa Protactinium 231.04 [Rn]5f ² 6d7s ² 5.89	92 U Uranium 238.03 [Rn]5f ³ 6d7s ² 6.1941	93 Np Neptunium (237) [Rn]5f ⁴ 6d7s ² 6.2655	94 Pu Plutonium (244) [Rn]5f ⁶ 7s ² 6.0258	95 Am Americium (243) [Rn]5f ⁷ 7s ² 5.9738	96 Cm Curium (247) [Rn]5f ⁷ 6d7s ² 5.9914	97 Bk Berkelium (247) [Rn]5f ⁹ 7s ² 6.1978	98 Cf Californium (251) [Rn]5f ¹⁰ 7s ² 6.2817	99 Es Einsteinium (252) [Rn]5f ¹¹ 7s ² 6.3676	100 Fm Fermium (257) [Rn]5f ¹² 7s ² 6.50	101 Md Mendelevium (258) [Rn]5f ¹³ 7s ² 6.58	102 No Nobelium (259) [Rn]5f ¹⁴ 7s ² 6.66	103 Lr Lawrencium (266) [Rn]5f ¹⁴ 7s ² 7p 4.96
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Atomic Number: 58
Ground State: 1G₄
Symbol: Ce
Name: Cerium
Standard Atomic Weight: 140.12
Ground-state Configuration: [Xe]4f5d6s²
Ionization Energy (eV): 5.5386

- Reactive nonmetals
- Alkali metals
- Alkaline earth metals
- Transition metals
- Post-transition metals
- Metalloids
- Noble gases
- Lanthanides
- Actinides
- Unknown chemical properties

†Based upon ¹²C. () indicates the mass number of the longest-lived isotope.



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