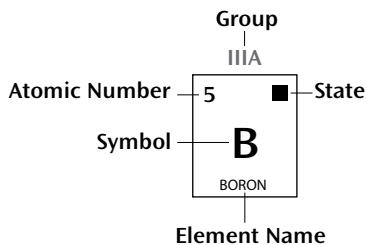


PERIODIC TABLE OF ELEMENTS

States of Matter at Standard Temperature & Pressure

PERIOD	GROUP																GROUP									
	IA	IIA		IIIB - VIIIIB										IIIB	IVA	VA	VIA	VIIA	VIIIA							
1	1 H HYDROGEN													5 B BORON	6 C CARBON	7 N NITROGEN	8 O OXYGEN	9 F FLUORINE	10 Ne NEON							
2	3 Li LITHIUM	4 Be BERYLLIUM																								
3	11 Na SODIUM	12 Mg MAGNESIUM																								
4	19 K POTASSIUM	20 Ca CALCIUM	21 Sc SCANDIUM	22 Ti TITANIUM	23 V VANADIUM	24 Cr CHROMIUM	25 Mn MANGANESE	26 Fe IRON	27 Co COBALT	28 Ni NICKEL	29 Cu COPPER	30 Zn ZINC	31 Ga GALLIUM	32 Ge GERMANIUM	33 As ARSENIC	34 Se SELENIUM	35 Br BROMINE	36 Kr KRYPTON								
5	37 Rb RUBIDIUM	38 Sr STRONTIUM	39 Y YTTRIUM	40 Zr ZIRCONIUM	41 Nb NIOBIUM	42 Mo MOLYBDENUM	43 Tc TECHNETIUM	44 Ru RUTHENIUM	45 Rh RHODIUM	46 Pd PALLADIUM	47 Ag SILVER	48 Cd CADMIUM	49 In INDIUM	50 Sn TIN	51 Sb ANTIMONY	52 Te TELLURIUM	53 I IODINE	54 Xe XENON								
6	55 Cs CAESIUM	56 Ba BARIUM	57-71 La-Lu Lanthanide	72 Hf HAFNIUM	73 Ta TANTALUM	74 W TUNGSTEN	75 Re RHENIUM	76 Os OSMIUM	77 Ir IRIDIUM	78 Pt PLATINUM	79 Au GOLD	80 Hg MERCURY	81 Tl THALLIUM	82 Pb LEAD	83 Bi BISMUTH	84 Po POLONIUM	85 At ASTATINE	86 Rn RADON								
7	87 Fr FRANCIUM	88 Ra RADIUM	89-103 Ac-Lr Actinide	104 Rf RUTHERFORDIUM	105 Db DUBNIUM	106 Sg SEABORGIUM	107 Bh BOHRIUM	108 Hs HASSIUM	109 Mt MEITNERIUM	110 Uun UNUNNIUM	111 Uuu UNUNUNIUM	112 Uub UNUNBIUM	114 Uuq UNUNQUADIUM													



- Solids
- Liquids
- ⦿ Gases
- Nonmetals
- Metalloids
- Metals
- Tc Synthetic

States of matter are given at standard temperature and pressure (STP). STP is 273K (0°C) and 101 kPa (1 atm) pressure.

Synthetic elements are elements that are too unstable to occur naturally on Earth and therefore are created artificially. Six elements (Tc, Pm, At, Fr, Np, and Pu) are considered quasi-synthetic because they are found in trace quantities on Earth.

LANTHANIDE

57 La LANTHANUM	58 Ce CERIUM	59 Pr PRASEODYMIUM	60 Nd NEODYMIUM	61 Pm PROMETHIUM	62 Sm SAMARIUM	63 Eu EUROPIUM	64 Gd GADOLINIUM	65 Tb TERBIUM	66 Dy DYSPROSIUM	67 Ho HOLMIUM	68 Er ERBIUM	69 Tm THULIUM	70 Yb YTTERBIUM	71 Lu LUTETIUM
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ACTINIDE

89 Ac ACTINIUM	90 Th THORIUM	91 Pa PROTACTINIUM	92 U URANIUM	93 Np NEPTUNIUM	94 Pu PLUTONIUM	95 Am AMERICIUM	96 Cm CURIUM	97 Bk BERKELIUM	98 Cf CALIFORNIUM	99 Es EINSTEINIUM	100 Fm FERMIUM	101 Md MENDELEVIUM	102 No NOBELIUM	103 Lr LAWRENCIUM
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PERIODIC TABLE OF ELEMENTS

Atomic Radii

PERIOD	GROUP																			
	IA	IIA												IIIA	IVA	VA	VIA	VIIA	VIIIA	
1	1 1.0079 HYDROGEN																			2 4.0026 HELIUM
2	3 6.941 LITHIUM	4 9.0122 BERYLLIUM											5 10.811 BORON	6 12.011 CARBON	7 14.007 NITROGEN	8 15.999 OXYGEN	9 18.998 FLUORINE	10 20.180 NEON		
3	11 22.990 SODIUM	12 24.305 MAGNESIUM											13 26.982 ALUMINIUM	14 28.086 SILICON	15 30.974 PHOSPHORUS	16 32.065 SULPHUR	17 35.453 CHLORINE	18 39.948 ARGON		
4	19 39.098 POTASSIUM	20 40.078 CALCIUM	IIIB 21 44.956 SCANDIUM	IVB 22 47.867 TITANIUM	VB 23 50.942 VANADIUM	VIB 24 51.996 CHROMIUM	VIIA 25 54.938 MANGANESE	VIIB 26 55.845 IRON		VIIB 27 58.933 COBALT		28 58.693 NICKEL	IB 29 63.546 COPPER	IIB 30 65.39 ZINC	31 69.723 GALLIUM	32 72.64 GERMANIUM	33 74.922 ARSENIC	34 78.96 SELENIUM	35 79.904 BROMINE	36 83.80 KRYPTON
5	37 85.468 RUBIDIUM	38 87.62 STRONTIUM	39 88.906 YTTRIUM	40 91.224 ZIRCONIUM	41 92.906 NIOBIUM	42 95.94 MOLYBDENUM	43 (98) TECHNETIUM	44 101.07 RUTHENIUM	45 102.91 RHODIUM	46 106.42 PALLADIUM	47 107.87 SILVER	48 112.41 CADMIUM	49 114.82 INDIUM	50 118.71 TIN	51 121.76 ANTIMONY	52 127.60 TELLURIUM	53 126.90 IODINE	54 131.29 XENON		
6	55 132.91 CAESIUM	56 137.33 BARIUM	Lanthanide 57-71		72 178.49 HAFNIUM	73 180.95 TANTALUM	74 183.84 TUNGSTEN	75 186.21 RHENIUM	76 190.23 OSMIUM	77 192.22 IRIDIUM	78 195.08 PLATINUM	79 196.97 GOLD	80 200.59 MERCURY	81 204.38 THALLIUM	82 207.2 LEAD	83 208.98 BISMUTH	84 (209) POLONIUM	85 (210) ASTATINE	86 (222) RADON	
7	87 (223) FRANCIUM	88 (226) RADIUM	Actinide 89-103		104 (261) RUTHERFORDIUM	105 (262) DUBNIUM	106 (266) SEABORGIUM	107 (264) BOHRIUM	108 (277) HASSIUM	109 (268) MEITNERIUM	110 (281) UNUNNIUM	111 (272) UNUNUNIUM	112 (285) UNUNBIUM	114 (289) UNUNQUADIUM						

Atomic radii are based on calculated radius data obtained from *Wikipedia: The Free Encyclopedia*. Radii are shown to scale (1 cm = 2.83500 × 10⁻³ picometers). No data were given for those elements without representation.

Relative atomic mass is shown to five significant figures. For elements that have no stable nuclides, the value enclosed in parentheses indicates the mass number of the longest-lived isotope of the element. Three elements (Th, Pa, and U) do not have a characteristic terrestrial isotopic composition. For these elements, atomic weight is tabulated.

LANTHANIDE

57 138.91 LANTHANUM	58 140.12 CERIUM	59 140.91 PRASEODYMIUM	60 144.24 NEODYMIUM	61 (145) PROMETHIUM	62 150.36 SAMARIUM	63 151.96 EUROPIUM	64 157.25 GADOLINIUM	65 158.93 TERBIUM	66 162.50 DYSPROSIUM	67 164.93 HOLMIUM	68 167.26 ERBIUM	69 168.93 THULIUM	70 173.04 YTTERBIUM	71 174.97 LUTETIUM
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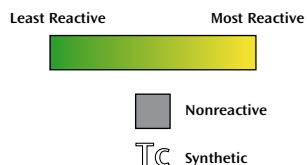
ACTINIDE

89 (227) ACTINIUM	90 232.04 THORIUM	91 231.04 PROTACTINIUM	92 238.03 URANIUM	93 (237) NEPTUNIUM	94 (244) PLUTONIUM	95 (243) AMERICIUM	96 (247) CURIUM	97 (247) BERKELIUM	98 (251) CALIFORNIUM	99 (252) EINSTEINIUM	100 (257) FERMIUM	101 (258) MENDELEVIUM	102 (259) NOBELIUM	103 (262) LAWRENCIUM
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PERIODIC TABLE OF ELEMENTS

Reactivity

PERIOD	GROUP																		
	IA	IIA		Transition Metals										IIIA	IVA	VA	VIA	VIIA	VIIIA
1	1 H HYDROGEN													5 B BORON	6 C CARBON	7 N NITROGEN	8 O OXYGEN	9 F FLUORINE	10 Ne NEON
2	3 Li LITHIUM	4 Be BERYLLIUM											13 Al ALUMINIUM	14 Si SILICON	15 P PHOSPHORUS	16 S SULPHUR	17 Cl CHLORINE	18 Ar ARGON	
3	11 Na SODIUM	12 Mg MAGNESIUM	IIIB	IVB	VB	VIB	VIIA	VIII			IB	IIB	31 Ga GALLIUM	32 Ge GERMANIUM	33 As ARSENIC	34 Se SELENIUM	35 Br BROMINE	36 Kr KRYPTON	
4	19 K POTASSIUM	20 Ca CALCIUM	21 Sc SCANDIUM	22 Ti TITANIUM	23 V VANADIUM	24 Cr CHROMIUM	25 Mn MANGANESE	26 Fe IRON	27 Co COBALT	28 Ni NICKEL	29 Cu COPPER	30 Zn ZINC	31 Ga GALLIUM	32 Ge GERMANIUM	33 As ARSENIC	34 Se SELENIUM	35 Br BROMINE	36 Kr KRYPTON	
5	37 Rb RUBIDIUM	38 Sr STRONTIUM	39 Y YTTRIUM	40 Zr ZIRCONIUM	41 Nb NIOBIUM	42 Mo MOLYBDENUM	43 Tc TECHNETIUM	44 Ru RUTHENIUM	45 Rh RHODIUM	46 Pd PALLADIUM	47 Ag SILVER	48 Cd CADMIUM	49 In INDIUM	50 Sn TIN	51 Sb ANTIMONY	52 Te TELLURIUM	53 I IODINE	54 Xe XENON	
6	55 Cs CAESIUM	56 Ba BARIUM	57-71 La-Lu Lanthanide	72 Hf HAFNIUM	73 Ta TANTALUM	74 W TUNGSTEN	75 Re RHENIUM	76 Os OSMIUM	77 Ir IRIDIUM	78 Pt PLATINUM	79 Au GOLD	80 Hg MERCURY	81 Tl THALLIUM	82 Pb LEAD	83 Bi BISMUTH	84 Po POLONIUM	85 At ASTATINE	86 Rn RADON	
7	87 Fr FRANCIUM	88 Ra RADIUM	89-103 Ac-Lr Actinide	104 Rf RUTHERFORDIUM	105 Db DUBNIUM	106 Sg SEABORGIUM	107 Bh BOHRIUM	108 Hs HASSIUM	109 Mt MEITNERIUM	110 Uun UNUNNIUM	111 Uuu UNUNUNIUM	112 Uub UNUNBIUM		114 Uuq UNUNQUADIUM					



No data were given for those elements without color representation (i.e., 57–71, 89–112, 114).

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LANTHANIDE

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ACTINIDE

89 Ac ACTINIUM	90 Th THORIUM	91 Pa PROTACTINIUM	92 U URANIUM	93 Np NEPTUNIUM	94 Pu PLUTONIUM	95 Am AMERICIUM	96 Cm CURIUM	97 Bk BERKELIUM	98 Cf CALIFORNIUM	99 Es EINSTEINIUM	100 Fm FERMIUM	101 Md MENDELEVIUM	102 No NOBELIUM	103 Lr LAWRENCIUM
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