

PERIODIC TABLE OF THE ELEMENTS

METALS ← → NON-METALS																			
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="border: 1px solid black; padding: 5px;"> 1 + H Hydrogen 1.0 </div> <div style="border: 1px solid black; padding: 5px;"> 18 He Helium 4.0 </div> </div>																			
<div style="display: flex; justify-content: center; align-items: center;"> <div style="border: 1px solid black; padding: 5px; margin-right: 10px;"> Atomic Number → 22 Symbol → Ti Name → Titanium Atomic Mass → 47.9 </div> <div style="margin-left: 10px;"> ← Ion charge(s) 4+ 3+ </div> </div>																			
1		2												13	14	15	16	17	18
3 +		4 2+												5	6	7 3-	8 2-	9 -	10 0
Li		Be												B	C	N	O	F	Ne
Lithium		Beryllium												Boron	Carbon	Nitrogen	Oxygen	Fluorine	Neon
6.9		9.0												10.8	12.0	14.0	16.0	19.0	20.2
11 +		12 2+		3	4	5	6	7	8	9	10	11	12	13 3+	14	15 3-	16 2-	17 -	18 0
Na		Mg		Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Al	Si	P	S	Cl	Ar
Sodium		Magnesium		Scandium	Titanium	Vanadium	Chromium	Manganese	Iron	Cobalt	Nickel	Copper	Zinc	Aluminium	Silicon	Phosphorus	Sulfur	Chlorine	Argon
23.0		24.3		45.0	47.9	50.9	52.0	54.9	55.8	58.9	63.5	65.4	69.7	27.0	28.1	31.0	32.1	35.5	39.9
19 +		20 2+		21 3+	22 4+	23 5+	24 3+	25 2+	26 3+	27 2+	28 2+	29 2+	30 2+	31 3+	32 4+	33 3-	34 2-	35 -	36 0
K		Ca		Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr
Potassium		Calcium		Scandium	Titanium	Vanadium	Chromium	Manganese	Iron	Cobalt	Nickel	Copper	Zinc	Gallium	Germanium	Arsenic	Selenium	Bromine	Krypton
39.1		40.1		45.0	47.9	50.9	52.0	54.9	55.8	58.9	63.5	65.4	69.7	72.6	74.9	79.0	79.9	79.9	83.8
37 +		38 2+		39 3+	40 4+	41 3+	42 2+	43 7+	44 3+	45 3+	46 2+	47 +	48 2+	49 3+	50 4+	51 3+	52 2-	53 -	54 0
Rb		Sr		Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe
Rubidium		Strontium		Yttrium	Zirconium	Niobium	Molybdenum	Technetium	Ruthenium	Rhodium	Palladium	Silver	Cadmium	Indium	Tin	Antimony	Tellurium	Iodine	Xenon
85.5		87.6		88.9	91.2	92.9	95.9	(98)	101.1	102.9	106.4	107.9	112.4	114.8	118.7	121.8	127.6	126.9	131.3
55 +		56 2+		57 3+	72 4+	73 5+	74 6+	75 4+	76 3+	77 3+	78 4+	79 3+	80 2+	81 1+	82 2+	83 3+	84 2+	85 -	86 0
Cs		Ba		La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn
Cesium		Barium		Lanthanum	Hafnium	Tantalum	Tungsten	Rhenium	Osmium	Iridium	Platinum	Gold	Mercury	Thallium	Lead	Bismuth	Polonium	Astatine	Radon
132.9		137.3		138.9	178.5	180.9	183.8	186.2	190.2	192.2	195.1	197.0	200.6	204.4	207.2	209.0	(209)	(210)	(222)
87 +		88 2+		89 3+	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118
Fr		Ra		Ac	Rf	Db	Sg	Bh	Hs	Mt	Ds	Rg	Uub	Uut	Uuq	Uup	Uuh	Uus	Uuo
Francium		Radium		Actinium	Rutherfordium	Dubnium	Seaborgium	Bohrium	Hassium	Meitnerium	Darmstadtium	Roentgenium	Ununbium	Ununtrium	Ununquadium	Ununpentium	Ununhexium	Ununseptium	Ununoctium
(223)		(226)		(227)	(261)	(262)	(263)	(262)	(265)	(266)	(281)	(272)	(285)	(284)	(289)	(288)	(292)	(?)	(294)
58 3+		59 3+		60 3+	61 3+	62 3+	63 3+	64 3+	65 3+	66 3+	67 3+	68 3+	69 3+	70 3+	71 3+	72 4+	73 5+	74 6+	75 4+
Ce		Pr		Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Ce	Pr	Nd	Pm
Cerium		Praseodymium		Neodymium	Promethium	Samarium	Europium	Gadolinium	Terbium	Dysprosium	Holmium	Erbium	Thulium	Ytterbium	Lutetium	Cerium	Praseodymium	Neodymium	Promethium
140.1		140.9		144.2	(145)	150.4	152.0	157.3	158.9	162.5	164.9	167.3	168.9	173.0	175.0	140.1	144.2		(145)
90 4+		91 5+		92 6+	93 5+	94 4+	95 3+	96 3+	97 3+	98 3+	99 3+	100 3+	101 2+	102 2+	103 3+	104 4+	105 5+	106 6+	107 7+
Th		Pa		U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr	Th	Pa	U	Np
Thorium		Protactinium		Uranium	Neptunium	Plutonium	Americium	Curium	Berkelium	Californium	Einsteinium	Fermium	Mendelevium	Nobelium	Lawrencium	Thorium	Protactinium	Uranium	Neptunium
232.0		231.0		238.0	(237)	(244)	(243)	(247)	(247)	(251)	(252)	(257)	(258)	(259)	(262)	232.0	231.0		238.0

Based on mass of C-12 at 12.00.

Any value in parentheses is the mass of the most stable or best known isotope for elements which do not occur naturally.

NAMES, FORMULAE AND CHARGES OF SOME POLYATOMIC IONS

NAMES AND FORMULAE OF COMMON ACIDS

Positive Ions	Negative Ions
NH_4^+ Ammonium	CH_3COO^- Acetate
	CO_3^{2-} Carbonate
	ClO_3^- Chlorate
	ClO_2^- Chlorite
	CrO_4^{2-} Chromate
	CN^- Cyanide
	$\text{Cr}_2\text{O}_7^{2-}$ Dichromate
	HCO_3^- Hydrogen carbonate, bicarbonate
	HSO_4^- Hydrogen sulfate, bisulfate
	HS^- Hydrogen sulfide, bisulfide
	HSO_3^- Hydrogen sulfite, bisulfite
	OH^- Hydroxide
	ClO^- Hypochlorite
	NO_3^- Nitrate
	NO_2^- Nitrite
	ClO_4^- Perchlorate
	MnO_4^- Permanganate
	PO_4^{3-} Phosphate
	PO_3^{3-} Phosphite
	SO_4^{2-} Sulfate
	SO_3^{2-} Sulfite

Hydrochloric acid	HCl
Sulfuric acid	H_2SO_4
Nitric acid	HNO_3
Acetic acid	HCH_3COO

PREFIXES

1	mono
2	di
3	tri
4	tetra
5	penta
6	hexa
7	hepta
8	octa
9	nona
10	deca