

Periodic Table of Elements

1																	18		
1	H hydrogen 1.008																	2	He helium 4.0026
2	Li lithium 6.94	Be beryllium 9.0122																	
3	Na sodium 22.99	Mg magnesium 24.305																	
4	K potassium 39.098	Ca calcium 40.078	Sc scandium 44.956	Ti titanium 47.867	V vanadium 50.942	Cr chromium 51.996	Mn manganese 54.938	Fe iron 55.845	Co cobalt 58.933	Ni nickel 58.693	Cu copper 63.546	Zn zinc 65.38	Ga gallium 69.723	Ge germanium 72.63	As arsenic 74.922	Se selenium 78.971	Br bromine 79.904	Kr krypton 83.798	
5	Rb rubidium 85.468	Sr strontium 87.62	Y yttrium 88.906	Zr zirconium 91.224	Nb niobium 92.906	Mo molybdenum 95.95	Tc technetium [98]	Ru ruthenium 101.07	Rh rhodium 102.91	Pd palladium 106.42	Ag silver 107.87	Cd cadmium 112.41	In indium 114.82	Sn tin 118.71	Sb antimony 121.76	Te tellurium 127.6	I iodine 126.9	Xe xenon 131.29	
6	Cs caesium 132.91	Ba barium 137.33	lanthanoids	Hf hafnium 178.49	Ta tantalum 180.95	W tungsten 183.84	Re rhenium 186.21	Os osmium 190.23	Ir iridium 192.22	Pt platinum 195.08	Au gold 196.97	Hg mercury 200.59	Tl thallium 204.38	Pb lead 207.2	Bi bismuth 208.98	Po polonium [209]	At astatine [210]	Rn radon [222]	
7	Fr francium [223]	Ra radium [226]	actinoids	Rf rutherfordium [267]	Db dubnium [268]	Sg seaborgium [269]	Bh bohrium [270]	Hs hassium [270]	Mt meitnerium [278]	Ds darmstadtium [281]	Rg roentgenium [282]	Cn copernicium [285]	Nh nihonium [286]	Fl flerovium [289]	Mc moscovium [290]	Lv livermorium [293]	Ts tennessine [294]	Og oganesson [294]	

Z	Ra		
CS	●	solid	liquid
N		gaseous	synthetic
Ar			

Z: Atomic Number
 Ra: Radioactive
 CS: Chemical Symbol
 N: Name
 Ar: Relative Atomic Mass

6	La lanthanum 138.91	Ce cerium 140.12	Pr praseodymium 140.91	Nd neodymium 144.24	Pm promethium [145]	Sm samarium 150.36	Eu europium 151.96	Gd gadolinium 157.25	Tb terbium 158.93	Dy dysprosium 162.5	Ho holmium 164.93	Er erbium 167.26	Tm thulium 168.93	Yb ytterbium 173.05	Lu lutetium 174.97
7	Ac actinium [227]	Th thorium 232.04	Pa protactinium 231.04	U uranium 238.03	Np neptunium [237]	Pu plutonium [244]	Am americium [243]	Cm curium [247]	Bk berkelium [247]	Cf californium [251]	Es einsteinium [252]	Fm fermium [257]	Md mendelevium [258]	No nobelium [259]	Lr lawrencium [266]

Periodic Table of Elements

1																	18				
1 1 H hydrogen 🇬🇧 1766																		2 2 He helium 🇨🇭 1895			
3 2 Li lithium 🇸🇪 1817	4 2 Be beryllium 🇫🇷 1798																				
11 3 Na sodium 🇬🇧 1807	12 3 Mg magnesium 🇬🇧 1755																				
			3	4	5	6	7	8													12
19 4 K potassium 🇬🇧 1807	20 4 Ca calcium 🇬🇧 1808	21 4 Sc scandium 🇸🇪 1879	22 4 Ti titanium 🇬🇧 1791	23 4 V vanadium 🇮🇹 1830	24 4 Cr chromium 🇫🇷 1797	25 4 Mn manganese 🇸🇪 1774	26 4 Fe iron 🇩🇪 2000BC	27 4 Co cobalt 🇸🇪 1751	28 4 Ni nickel 🇸🇪 1751	29 4 Cu copper 🇩🇪 8000BC	30 4 Zn zinc 🇩🇪 1746	31 4 Ga gallium 🇫🇷 1875	32 4 Ge germanium 🇩🇪 1886	33 4 As arsenic 🇮🇹 1250	34 4 Se selenium 🇸🇪 1817	35 4 Br bromine 🇫🇷 1825	36 4 Kr krypton 🇬🇧 1898				
37 5 Rb rubidium 🇩🇪 1861	38 5 Sr strontium 🇬🇧 1787	39 5 Y yttrium 🇫🇷 1794	40 5 Zr zirconium 🇩🇪 1789	41 5 Nb niobium 🇬🇧 1801	42 5 Mo molybdenum 🇸🇪 1781	43 5 Tc technetium 🇮🇹 1937	44 5 Ru ruthenium 🇩🇪 1844	45 5 Rh rhodium 🇬🇧 1804	46 5 Pd palladium 🇬🇧 1802	47 5 Ag silver 🇩🇪 3000BC	48 5 Cd cadmium 🇩🇪 1817	49 5 In indium 🇩🇪 1863	50 5 Sn tin 🇩🇪 3000BC	51 5 Sb antimony 🇩🇪 815	52 5 Te tellurium 🇫🇷 1782	53 5 I iodine 🇬🇧 1811	54 5 Xe xenon 🇬🇧 1898				
55 6 Cs caesium 🇩🇪 1860	56 6 Ba barium 🇬🇧 1808	57-71 6 lanthanoids		72 6 Hf hafnium 🇩🇪 1922	73 6 Ta tantalum 🇸🇪 1802	74 6 W tungsten 🇩🇪 1783	75 6 Re rhenium 🇩🇪 1925	76 6 Os osmium 🇬🇧 1803	77 6 Ir iridium 🇬🇧 1803	78 6 Pt platinum 🇮🇹 1735	79 6 Au gold 🇩🇪 4000BC	80 6 Hg mercury 🇩🇪 1500BC	81 6 Tl thallium 🇬🇧 1861	82 6 Pb lead 🇩🇪 3800BC	83 6 Bi bismuth 🇫🇷 1400	84 6 Po polonium 🇫🇷 1898	85 6 At astatine 🇺🇸 1940	86 6 Rn radon 🇩🇪 1899			
87 7 Fr francium 🇫🇷 1939	88 7 Ra radium 🇫🇷 1898	89-103 7 actinoids		104 7 Rf rutherfordium 🇫🇷 1969	105 7 Db dubnium 🇫🇷 1970	106 7 Sg seaborgium 🇺🇸 1974	107 7 Bh bohrium 🇩🇪 1981	108 7 Hs hassium 🇩🇪 1984	109 7 Mt meitnerium 🇩🇪 1982	110 7 Ds darmstadtium 🇩🇪 1994	111 7 Rg roentgenium 🇩🇪 1994	112 7 Cn copernicium 🇩🇪 1996	113 7 Nh nihonium 🇫🇷 2004	114 7 Fl flerovium 🇫🇷 1998	115 7 Mc moscovium 🇫🇷 2003	116 7 Lv livermorium 🇫🇷 2000	117 7 Ts tennessine 🇺🇸 2009	118 7 Og oganeson 🇺🇸 2002			

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solid
 liquid
 gaseous
 synthetic

- Asia Minor
- Austria
- Denmark
- Egypt
- Finland
- France
- Germany
- Italy
- Middle East
- Peru
- Romania
- Russia
- Spain
- Sweden
- Switzerland
- The United Kingdom
- The United States
- Mexico

6 6 La lanthanum 🇸🇪 1838	58 6 Ce cerium 🇮🇹 1803	59 6 Pr praseodymium 🇮🇹 1885	60 6 Nd neodymium 🇮🇹 1885	61 6 Pm promethium 🇺🇸 1945	62 6 Sm samarium 🇫🇷 1879	63 6 Eu europium 🇫🇷 1901	64 6 Gd gadolinium 🇨🇭 1880	65 6 Tb terbium 🇸🇪 1843	66 6 Dy dysprosium 🇫🇷 1886	67 6 Ho holmium 🇨🇭 1878	68 6 Er erbium 🇸🇪 1843	69 6 Tm thulium 🇸🇪 1879	70 6 Yb ytterbium 🇨🇭 1878	71 6 Lu lutetium 🇬🇧 1906
7 7 Ac actinium 🇫🇷 1902	90 7 Th thorium 🇸🇪 1829	91 7 Pa protactinium 🇫🇷 1913	92 7 U uranium 🇩🇪 1789	93 7 Np neptunium 🇺🇸 1940	94 7 Pu plutonium 🇺🇸 1940	95 7 Am americium 🇺🇸 1944	96 7 Cm curium 🇺🇸 1944	97 7 Bk berkelium 🇺🇸 1949	98 7 Cf californium 🇺🇸 1950	99 7 Es einsteinium 🇺🇸 1952	100 7 Fm fermium 🇺🇸 1952	101 7 Md mendelevium 🇺🇸 1955	102 7 No nobelium 🇫🇷 1966	103 7 Lr lawrencium 🇺🇸 1961

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1	1 H hydrogen 1.008																	2 He helium 4.0026									
2	3 Li lithium 6.94	4 Be beryllium 9.0122																	5 B boron 10.81	6 C carbon 12.011	7 N nitrogen 14.007	8 O oxygen 15.999	9 F fluorine 18.998	10 Ne neon 20.18			
3	11 Na sodium 22.99	12 Mg magnesium 24.305																	13 Al aluminium 26.982	14 Si silicon 28.085	15 P phosphorus 30.974	16 S sulfur 32.06	17 Cl chlorine 35.45	18 Ar argon 39.95			
4	19 K potassium 39.098	20 Ca calcium 40.078	21 Sc scandium 44.956	22 Ti titanium 47.867	23 V vanadium 50.942	24 Cr chromium 51.996	25 Mn manganese 54.938	26 Fe iron 55.845	27 Co cobalt 58.933	28 Ni nickel 58.693	29 Cu copper 63.546	30 Zn zinc 65.38	31 Ga gallium 69.723	32 Ge germanium 72.63	33 As arsenic 74.922	34 Se selenium 78.971	35 Br bromine 79.904	36 Kr krypton 83.798									
5	37 Rb rubidium 85.468	38 Sr strontium 87.62	39 Y yttrium 88.906	40 Zr zirconium 91.224	41 Nb niobium 92.906	42 Mo molybdenum 95.95	43 Tc technetium [98]	44 Ru ruthenium 101.07	45 Rh rhodium 102.91	46 Pd palladium 106.42	47 Ag silver 107.87	48 Cd cadmium 112.41	49 In indium 114.82	50 Sn tin 118.71	51 Sb antimony 121.76	52 Te tellurium 127.6	53 I iodine 126.9	54 Xe xenon 131.29									
6	55 Cs caesium 132.91	56 Ba barium 137.33	57-71 lanthanoids	72 Hf hafnium 178.49	73 Ta tantalum 180.95	74 W tungsten 183.84	75 Re rhenium 186.21	76 Os osmium 190.23	77 Ir iridium 192.22	78 Pt platinum 195.08	79 Au gold 196.97	80 Hg mercury 200.59	81 Tl thallium 204.38	82 Pb lead 207.2	83 Bi bismuth 208.98	84 Po polonium [209]	85 At astatine [210]	86 Rn radon [222]									
7	87 Fr francium [223]	88 Ra radium [226]	89-103 actinoids	104 Rf rutherfordium [267]	105 Db dubnium [268]	106 Sg seaborgium [269]	107 Bh bohrium [270]	108 Hs hassium [270]	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 [290]	116 Lv livermorium [293]	117 Ts tennessine [294]	118 Og oganesson [294]									

Z	Ra	
CS	●	solid liquid gaseous synthetic
N		
Ar		

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7	Fr francium [223]	Ra radium [226]	89-103 actinoids	Rf rutherfordium [267]	Db dubnium [268]	Sg seaborgium [269]	Bh bohrium [270]	Hs hassium [270]	Mt meitnerium [278]	Ds darmstadtium [281]	Rg roentgenium [282]	Cn copernicium [285]	Nh nihonium [286]	Fl flerovium [289]	Mc moscovium [290]	Lv livermorium [293]	Ts tennessine [294]	Og oganesson [294]	

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		3	4																	5	6	7	8	9	10																			
2	3	4																	13	14	15	16	17	18																				
	Li	Be																	B	C	N	O	F	Ne																				
	lithium	beryllium																	boron	carbon	nitrogen	oxygen	fluorine	neon																				
	6.94	9.0122																	10.81	12.011	14.007	15.999	18.998	20.18																				
3	11	12																	13	14	15	16	17	18																				
	Na	Mg																	Al	Si	P	S	Cl	Ar																				
	sodium	magnesium																	aluminium	silicon	phosphorus	sulfur	chlorine	argon																				
	22.99	24.305																	26.982	28.085	30.974	32.06	35.45	39.95																				
4	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36																										
	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																										
	39.098	40.078	44.956	47.867	50.942	51.996	54.938	55.845	58.933	58.693	63.546	65.38	69.723	72.63	74.922	78.971	79.904	83.798																										
5	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54																										
	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																										
	85.468	87.62	88.906	91.224	92.906	95.95	[98]	101.07	102.91	106.42	107.87	112.41	114.82	118.71	121.76	127.6	126.9	131.29																										
6	55	56	57-71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86																										
	Cs	Ba	lanthanoids	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn																										
	caesium	barium	lanthanoids	hafnium	tantalum	tungsten	rhenium	osmium	iridium	platinum	gold	mercury	thallium	lead	bismuth	polonium	astatine	radon																										
	132.91	137.33	lanthanoids	178.49	180.95	183.84	186.21	190.23	192.22	195.08	196.97	200.59	204.38	207.2	208.98	[209]	[210]	[222]																										
7	87	88	89-103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118																										
	Fr	Ra	actinoids	Rf	Db	Sg	Bh	Hs	Mt	Ds	Rg	Cn	Nh	Fl	Mc	Lv	Ts	Og																										
	francium	radium	actinoids	rutherfordium	dubnium	seaborgium	bohrium	hassium	meitnerium	darmstadtium	roentgenium	copernicium	nihonium	flerovium	moscovium	livermorium	tennessine	oganesson																										
	[223]	[226]	actinoids	[267]	[268]	[269]	[270]	[270]	[278]	[281]	[282]	[285]	[286]	[289]	[290]	[293]	[294]	[294]																										

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	La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu																
	lanthanum	cerium	praseodymium	neodymium	promethium	samarium	europium	gadolinium	terbium	dysprosium	holmium	erbium	thulium	ytterbium	lutetium																
	138.91	140.12	140.91	144.24	[145]	150.36	151.96	157.25	158.93	162.5	164.93	167.26	168.93	173.05	174.97																
7	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103																
	Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr																
	actinium	thorium	protactinium	uranium	neptunium	plutonium	americium	curium	berkelium	californium	einsteinium	fermium	mendelevium	nobelium	lawrencium																
	[227]	232.04	231.04	238.03	[237]	[244]	[243]	[247]	[247]	[251]	[252]	[257]	[258]	[259]	[266]																

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