

The Periodic Table of the Elements

1 H Hydrogen (1.00794)																	2 He Helium (4.0026)
3 Li Lithium (6.941)	4 Be Beryllium (9.012182)											5 B Boron (10.811)	6 C Carbon (12.011)	7 N Nitrogen (14.00643)	8 O Oxygen (15.999)	9 F Fluorine (18.998403)	10 Ne Neon (20.1797)
11 Na Sodium (22.98976928)	12 Mg Magnesium (24.304)											13 Al Aluminum (26.9815385)	14 Si Silicon (28.0855)	15 P Phosphorus (30.9737615)	16 S Sulfur (32.06)	17 Cl Chlorine (35.453)	18 Ar Argon (39.948)
19 K Potassium (39.0983)	20 Ca Calcium (40.078)	21 Sc Scandium (44.955912)	22 Ti Titanium (47.88)	23 V Vanadium (50.9415)	24 Cr Chromium (51.9961)	25 Mn Manganese (54.938045)	26 Fe Iron (55.845)	27 Co Cobalt (58.933195)	28 Ni Nickel (58.6934)	29 Cu Copper (63.546)	30 Zn Zinc (65.38)	31 Ga Gallium (69.723)	32 Ge Germanium (72.6)	33 As Arsenic (74.92160)	34 Se Selenium (78.96)	35 Br Bromine (79.904)	36 Kr Krypton (83.80)
37 Rb Rubidium (85.4678)	38 Sr Strontium (87.62)	39 Y Yttrium (88.90584)	40 Zr Zirconium (91.224)	41 Nb Niobium (92.90638)	42 Mo Molybdenum (95.94)	43 Tc Technetium (98)	44 Ru Ruthenium (101.07)	45 Rh Rhodium (102.90550)	46 Pd Palladium (106.42)	47 Ag Silver (107.8682)	48 Cd Cadmium (112.411)	49 In Indium (114.818)	50 Sn Tin (118.710)	51 Sb Antimony (121.757)	52 Te Tellurium (127.60)	53 I Iodine (126.90447)	54 Xe Xenon (131.29)
55 Cs Cesium (132.90545)	56 Ba Barium (137.327)	57 La Lanthanum (138.90549)	58 Hf Hafnium (178.49)	59 Ta Tantalum (180.94788)	60 W Tungsten (183.84)	61 Re Rhenium (186.207)	62 Os Osmium (190.23)	63 Ir Iridium (192.222)	64 Pt Platinum (195.078)	65 Au Gold (196.96657)	66 Hg Mercury (200.59)	67 Tl Thallium (204.3833)	68 Pb Lead (207.2)	69 Bi Bismuth (208.9804)	70 Po Polonium (209)	71 At Astatine (210)	72 Rn Radon (222)
87 Fr Francium (223)	88 Ra Radium (226)	89 Ac Actinium (227)	90 Rf Rutherfordium (261)	91 Db Dubnium (262)	92 Sg Seaborgium (266)	93 Bh Bohrium (264)	94 Hs Hassium (277)	95 Mt Meitnerium (268)	96 Lv Livermorium (260)	97 Uu Ununseptium (289)	98 Uub Unbibium (285)	99 Uut Ununtrium (288)	100 Uuq Unquadium (289)	101 Uuh Unhexium (285)	102 Uus Unsextium (286)	103 Uuo Unoctium (284)	104 Uuq Unquadium (289)

58 Ce Cerium (140.12)	59 Pr Praseodymium (140.90768)	60 Nd Neodymium (144.24)	61 Pm Promethium (145)	62 Sm Samarium (150.35)	63 Eu Europium (151.964)	64 Gd Gadolinium (157.25)	65 Tb Terbium (158.92534)	66 Dy Dysprosium (162.50)	67 Ho Holmium (164.93032)	68 Er Erbium (167.26)	69 Tm Thulium (168.93032)	70 Yb Ytterbium (173.04)	71 Lu Lutetium (174.967)
90 Th Thorium (232.0377)	91 Pa Protactinium (231.03688)	92 U Uranium (238.02891)	93 Np Neptunium (237)	94 Pu Plutonium (244)	95 Am Americium (243)	96 Cm Curium (247)	97 Bk Berkelium (247)	98 Cf Californium (251)	99 Es Einsteinium (252)	100 Fm Fermium (257)	101 Md Mendelevium (258)	102 No Nobelium (259)	103 Lr Lawrencium (260)







Why lithium?

- It is simple (like a noble gas and an electron)
- Since it is simple, theory is good
- Two stable isotopes
- Disagreement among previous measurements

Alkali metals

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55 Cs Cesium 132.90545196	56 Ba Barium 137.327	57 La Lanthanum 138.90547	58 Ce Cerium 140.12	59 Pr Praseodymium 140.90768	60 Nd Neodymium 144.24	61 Pm Promethium [145]	62 Sm Samarium 150.36	63 Eu Europium 151.964	64 Gd Gadolinium 157.25	65 Tb Terbium 158.92534	66 Dy Dysprosium 162.50	67 Ho Holmium 164.93032	68 Er Erbium 167.26	69 Tm Thulium 168.93421	70 Yb Ytterbium 173.04	71 Lu Lutetium 174.967	72 Hf Hafnium 178.49	73 Ta Tantalum 180.94788	74 W Tungsten 183.84	75 Re Rhenium 186.207	76 Os Osmium 190.23	77 Ir Iridium 192.222	78 Pt Platinum 195.084	79 Au Gold 196.966569	80 Hg Mercury 200.59	81 Tl Thallium 204.3833	82 Pb Lead 207.2	83 Bi Bismuth 208.980399	84 Po Polonium [209]	85 At Astatine [210]	86 Rn Radon [222]				
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