

CONCEPT: PERIODIC TABLE: ELEMENT SYMBOLS

Periodic Table History

- At the end of the 18th century, Antoine Lavoisier compiled a list of 23 elements and their symbols known at the time.
 - In 1869, Dmitri Ivanovich Mendeleev organized them by their recurring or _____ chemical properties.
 - Periodic Law:** The system for organizing the elements.

Element Symbols

- The Periodic Table can be seen as a grid of *element symbols* that is ordered in terms of _____ *atomic number*.
 - Element Symbol:** The abbreviated form of an element.
 - Most elements it's based on the first letters of their name.
 - 11 elements it's based on their **Latin names**.

1A (1)												8A (18)							
2A (2)																			
1 H Hydrogen																			
2 Li Lithium	4 Be Beryllium																		
3 Na Sodium	12 Mg Magnesium	3B	4B	5B	6B	7B	8B			1B	2B	3A (13)	4A (14)	5A (15)	6A (16)	7A (17)	2 He Helium		
4 K Potassium	20 Ca Calcium	Sc	Ti	V	Cr	Mn	26 Fe Iron	27 Co Cobalt	28 Ni Nickel	29 Cu Copper	30 Zn Zinc	13 Al Aluminum	14 Si Silicon	15 P Phosphorus	16 S Sulfur	17 Cl Chlorine	18 Ar Argon		
5 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 Cs Cesium	56 Ba Barium	57 La Lanthanum	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 Fr Francium	88 Ra Radium	89 Ac Actinium	104 Rf Rutherfordium	105 Db Dubnium	106 Sg Seaborgium	107 Bh Bohrium	108 Hs Hassium	109 Mt Meitnerium	110 Ds Darmstadtium	111 Rg Roentgenium	112 Cn Copernicium	113 Nh Nihonium	114 Fl Flerovium	115 Mc Moscovium	116 Lv Livermorium	117 Ts Tennessine	118 Og Oganesson		

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
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

EXAMPLE: Name the halogen with the smallest atomic number.

- a) Fluorine, F b) Chlorine, Cl c) Bromine, Br d) Iodine, I e) Scandium, Sc

PRACTICE: Based on the number of protons each element has, which would you expect to be chemically similar?

- a) Z = 7 and Z = 8 b) Z = 22 and Z = 31 c) Z = 3 and Z = 11 d) Z = 32 and Z = 33