



# PERIODIC TABLE SCAVENGER HUNT

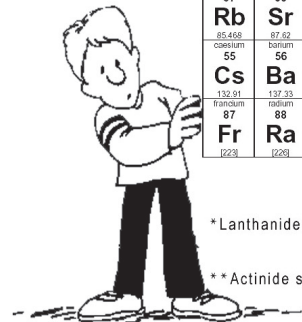



hydrogen 1 H 1.0079	beryllium 4 Be 9.0122																	helium 2 He 4.0026																																										
lithium 3 Li 6.941	boron 5 B 10.811	carbon 6 C 12.011	nitrogen 7 N 14.007	oxygen 8 O 15.999	fluorine 9 F 18.998	neon 10 Ne 20.180																	argon 18 Ar 39.948																																					
sodium 11 Na 22.990	magnesium 12 Mg 24.305	aluminum 13 Al 26.982	silicon 14 Si 28.086	phosphorus 15 P 30.974	sulfur 16 S 32.065	chlorine 17 Cl 35.453	argon 18 Ar 39.948	potassium 19 K 39.098	calcium 20 Ca 40.078	scandium 21 Sc 44.956	titanium 22 Ti 47.867	vanadium 23 V 50.942	chromium 24 Cr 51.996	manganese 25 Mn 54.938	iron 26 Fe 55.845	cobalt 27 Co 58.933	nickel 28 Ni 58.693	copper 29 Cu 63.546	zinc 30 Zn 65.39	gallium 31 Ga 69.723	germanium 32 Ge 72.61	arsenic 33 As 74.922	selenium 34 Se 78.96	bromine 35 Br 79.904	krypton 36 Kr 83.80																																			
rubidium 37 Rb 85.468	strontium 38 Sr 87.62	yttrium 39 Y 88.906	zirconium 40 Zr 91.224	niobium 41 Nb 92.906	molybdenum 42 Mo 95.94	technetium 43 Tc [98]	ruthenium 44 Ru 101.07	rhodium 45 Rh 102.91	silver 47 Ag 107.87	cadmium 48 Cd 112.41	indium 49 In 114.82	tin 50 Sn 118.71	antimony 51 Sb 121.76	tellurium 52 Te 127.60	iodine 53 I 126.90	xenon 54 Xe 131.29	cesium 55 Cs 132.91	barium 56 Ba 137.33	lanthanum 57 La 138.91	cerium 58 Ce 140.12	praseodymium 59 Pr 140.91	neodymium 60 Nd 144.24	promethium 61 Pm [145]	samarium 62 Sm 150.36	europium 63 Eu 151.96	gadolinium 64 Gd 157.25	terbium 65 Tb 158.93	dysprosium 66 Dy 162.50	holmium 67 Ho 164.93	erbium 68 Er 167.26	thulium 69 Tm 168.93	ytterbium 70 Yb 173.04	francium 87 Fr [223]	radium 88 Ra [226]	actinium 89 Ac [227]	protactinium 90 Pa [231]	thorium 91 Th 232.04	protactinium 91 Pa [231]	uranium 92 U 238.03	neptunium 93 Np [237]	plutonium 94 Pu [244]	americium 95 Am [243]	curium 96 Cm [247]	berkelium 97 Bk [247]	californium 98 Cf [251]	einsteinium 99 Es [252]	fermium 100 Fm [257]	mendelevium 101 Md [258]	nobelium 102 No [259]	bohrium 107 Bh [264]	hassium 108 Hs [265]	meitnerium 109 Mt [269]	unnilium 110 Uun [271]	ununium 111 Uuu [272]	ununbium 112 Uub [277]	ununtrium 113 Uut [284]	ununpentium 115 Uup [289]	ununseptium 117 Uus [289]	ununnonium 119 Uun [294]	oganesson 118 Og [294]

\* Lanthanide series

\*\* Actinide series

lanthanum 57 La 138.91	cerium 58 Ce 140.12	praseodymium 59 Pr 140.91	neodymium 60 Nd 144.24	promethium 61 Pm [145]	samarium 62 Sm 150.36	europium 63 Eu 151.96	gadolinium 64 Gd 157.25	terbium 65 Tb 158.93	dysprosium 66 Dy 162.50	holmium 67 Ho 164.93	erbium 68 Er 167.26	thulium 69 Tm 168.93	ytterbium 70 Yb 173.04
actinium 89 Ac [227]	thorium 90 Th 232.04	protactinium 91 Pa [231]	uranium 92 U 238.03	neptunium 93 Np [237]	plutonium 94 Pu [244]	americium 95 Am [243]	curium 96 Cm [247]	berkelium 97 Bk [247]	californium 98 Cf [251]	einsteinium 99 Es [252]	fermium 100 Fm [257]	mendelevium 101 Md [258]	nobelium 102 No [259]



- 1) If you're digging for gold, you are searching for element number: \_\_\_\_\_
- 2) The most expensive element in the world is number 98. It is a man-made element and costs about 27 million US dollars per gram to produce. What is the name of this element? \_\_\_\_\_
- 3) In general, elements get larger as the atomic numbers get higher. The largest element (highest number) that is natural and not man-made is: \_\_\_\_\_ at number \_\_\_\_\_. (HINT: Use the symbol key in the lower left corner.)
- 4) The element selenium was named after the moon. The scientist who discovered the element right underneath it thought that the moon should be near the earth, so he used the Latin name for "earth" and named it \_\_\_\_\_.
- 5) The best batteries in the world have the element lithium in them. Lithium is a small atom. Its atomic number is: \_\_\_\_\_
- 6) There are 10 elements with symbols that are different from the first letter of their name. What are the symbols?  
\_\_\_\_\_ K, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_
- 7) What is the smallest (lowest number) radioactive element? \_\_\_\_\_
- 8) Which two elements are liquids at room temperature? \_\_\_\_\_ and \_\_\_\_\_ (according to the table in this book)
- 9) The elements carbon, C, and silicon, Si, are key ingredients in many minerals. They are both in the same column, so that means that they have similar chemical properties. What other elements are in this column? \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_.
- 10) The elements in the column on the far right are called the noble gases. They are the only elements that have no interest in making molecules. All of the noble gases are used in light bulbs except this one, because it is radioactive: \_\_\_\_\_
- 11) The column just to the left of the noble gases is called the "halogens" (salt-makers). They combine with the very first column on the left side of the table to make salts. Only two halogens are solids. They are: \_\_\_\_\_ and \_\_\_\_\_
- 12) Three elements are named after planets. Which ones? \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_
- 13) Marie Curie discovered these elements. She named one after her home country of Poland and the other after her adopted country, France. They are \_\_\_\_\_ and \_\_\_\_\_ (Which element is named after her? \_\_\_\_\_)
- 14) Iron and magnesium are very important elements in the chemistry of volcanic rocks. Calcium is the key to understanding limestone. Which two of these elements are in the same column? \_\_\_\_\_ and \_\_\_\_\_
- 15) Four elements are named after Ytterby, a small town in Sweden: Erbium, Terbium, \_\_\_\_\_ and \_\_\_\_\_
- 16) How many element *symbols* begin with the letter Z? \_\_\_\_\_ the letter A? \_\_\_\_\_ the letter P? \_\_\_\_\_ the letter J? \_\_\_\_\_
- 17) There is only one place on the table where you will find four elements sitting in a 2x2 square, where all four elements have only one letter in their symbol. What four elements are these? \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_
- 18) What is the atomic number of the element named after Albert Einstein? \_\_\_\_\_
- 19) In radioactive decay, an atom's nucleus falls apart, often spitting out two protons and two neutrons. If a uranium atom decays 5 times (2 protons lost each time) what elements does it end up as? \_\_\_\_\_
- 20) Which element has the fewest number of letters in its name? \_\_\_\_\_



# Periodic Table of Elements

1 H HYDROGEN 1.00794	2 He HELIUM 4.002602	3 Li LITHIUM 6.941	4 Be BERYLLIUM 9.012182	5 B BORON 10.811	6 C CARBON 12.0107	7 N NITROGEN 14.0067	8 O OXYGEN 15.9994	9 F FLUORINE 18.9984032	10 Ne NEON 20.1797	11 Na SODIUM 22.9903	12 Mg MAGNESIUM 24.305	13 Al ALUMINUM 26.9815386	14 Si SILICON 28.0855	15 P PHOSPHORUS 30.973762	16 S SULFUR 32.065	17 Cl CHLORINE 35.453	18 Ar ARGON 39.948	19 K POTASSIUM 39.098	20 Ca CALCIUM 40.078	21 Sc SCANDIUM 44.955912	22 Ti TITANIUM 47.867	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 65.39	31 Ga GALLIUM 69.723	32 Ge GERMANIUM 72.64	33 As ARSENIC 74.92160	34 Se SELENIUM 78.96	35 Br BROMINE 79.904	36 Kr KRYPTON 83.798	37 Rb RUBIDIUM 85.468	38 Sr STRONTIUM 87.62	39 Y YTRITIUM 88.90585	40 Zr ZIRCONIUM 91.224	41 Nb NIOBIUM 92.90638	42 Mo MOLYBDENUM 95.94	43 Tc TECHNETIUM 97.9072	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 121.760	52 Te TELLURIUM 127.60	53 I IODINE 126.90447	54 Xe XENON 131.293	55 Cs CESIUM 132.91	56 Ba BARIUM 137.33	57-71 La LANTHANUM 138.90547	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 192.217	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 208.98040	84 Po POLONIUM 208.9824	85 At ASTATINE 209.9871	86 Rn RADON 222.0176	87 Fr FRANCIUM 223.0197	88 Ra RADIUM 226.0254	89-103 Ac ACTINIUM 227.027	104 Rf RUTHERFORDIUM 261.10888	105 Db DUBNIUM 262	106 Sg SEABORGIUM 266	107 Bh BOHRNIUM 264	108 Hs HASSIUM 277	109 Mt MEITNERIUM 268	110 Ds DARWINSTADIUM 271	111 Rg ROENTGENIUM 272	112 Cn COPERNICIUM 285	113 Nh NIHOONIUM 284	114 Fl FLEROVIUM 289	115 Mc MOSCOWIUM 288	116 Lv LIVERMORIUM 293	117 Ts TENNESSINE 294	118 Og OGANESSON 294
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alkali metals      nonmetals  
 alkali earth metals      halogens  
 transition metals      noble gases  
 true metals      lanthanides  
 metalloids      actinides

Atomic Number → **7**  
 Chemical Symbol → **N**  
 Chemical Name → **NITROGEN**  
 Relative Atomic Mass → **14.007**

Solid at room temperature  
⬇ Liquid at room temperature  
☁ Gas at room temperature  
⚡ Artificially created  
☢ Radioactive

57 La LANTHANUM 138.90547	58 Ce CERIUM 140.116	59 Pr PRASEODYMIUM 140.90765	60 Nd NEODYMIUM 144.242	61 Pm PROMETHIUM 144.9127	62 Sm SAMARIUM 150.36	63 Eu EUROPIUM 151.964	64 Gd GADOLINIUM 157.25	65 Tb TERBIUM 158.92535	66 Dy DYSPROSIUM 162.500	67 Ho HOLIUM 164.93032	68 Er ERBIUM 167.259	69 Tm THULIUM 168.93421	70 Yb YTBRIUM 173.04	71 Lu LUTETIUM 174.967	89 Ac ACTINIUM 227.027	90 Th THORIUM 232.03806	91 Pa PROTACTINIUM 231.03588	92 U URANIUM 238.02891	93 Np NEPTUNIUM 237.0482	94 Pu PLUTONIUM 244.0642	95 Am AMERICIUM 243.0614	96 Cm CURIUM 247.0704	97 Bk BERKELIUM 247.0703	98 Cf CALIFORNIUM 251.0796	99 Es EINSTEINIUM 252.0830	100 Fm FERMIUM 257.0951	101 Md MEINDELIUM 258.0984	102 No NOBELIUM 259.1010	103 Lr LAWRENCIUM 262.1097
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