



# TEACHING TRANSPARENCY MASTER

18

## The Periodic Table

Use with Chapter 6,  
Section 6.1

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Gas  
 Liquid  
 Solid  
 Synthetic Elements

Metal  
 Metalloid  
 Nonmetal

State of Matter

Element: Hydrogen  
Atomic Number: 1  
Symbol: H  
Atomic Mass: 1.008

		13 3A		14 4A		15 5A		16 6A		17 7A		18 8A	
1	1A	Hydrogen 1 H 1.008											
2	2A	Lithium 3 Li 6.941	Beryllium 4 Be 9.012										
3	3A	Sodium 11 Na 22.990	Magnesium 12 Mg 24.305										
4	4A	Potassium 19 K 39.098	Calcium 20 Ca 40.078										
5	5A	Rubidium 37 Rb 85.468	Strontium 38 Sr 87.62										
6	6A	Cesium 55 Cs 132.905	Barium 56 Ba 137.327										
7	7A	Francium 87 Fr 223.020	Radium 88 Ra 226.025										
8	8A												
9	9A												
10	10A												
11	11A												
12	12A												
13	13A	Boron 5 B 10.811	Aluminum 13 Al 26.982	Gallium 31 Ga 69.723	Indium 49 In 114.82	Thallium 81 Tl 204.383							
14	14A	Carbon 6 C 12.011	Silicon 14 Si 28.086	Germanium 32 Ge 72.61	Tin 50 Sn 118.710	Lead 82 Pb 207.2							
15	15A	Nitrogen 7 N 14.007	Phosphorus 15 P 30.974	Arsenic 33 As 74.922	Antimony 51 Sb 121.757	Bismuth 83 Bi 208.980							
16	16A	Oxygen 8 O 15.999	Sulfur 16 S 32.066	Selenium 34 Se 78.96	Tellurium 52 Te 127.60	Polonium 84 Po 209							
17	17A	Fluorine 9 F 18.998	Chlorine 17 Cl 35.453	Bromine 35 Br 79.904	Iodine 53 I 126.904	Astatine 85 At 209							
18	18A	Helium 2 He 4.003	Neon 10 Ne 20.180	Argon 18 Ar 39.948	Krypton 36 Kr 83.80	Xenon 54 Xe 131.290	Radon 86 Rn 222.018						
													* Names not officially assigned. Discovery of elements 114, 116, and 118 recently reported. Further information not yet available.

  

		8B		11B		12B	
8	8B	Iron 26 Fe 55.847	Cobalt 27 Co 58.933	Nickel 28 Ni 58.693	Copper 29 Cu 63.546	Zinc 30 Zn 65.39	
9	9B	Ruthenium 44 Ru 101.07	Rhodium 45 Rh 102.906	Palladium 46 Pd 106.42	Silver 47 Ag 107.868	Cadmium 48 Cd 112.411	
10	10B	Rosmium 108 Os 223.019	Iridium 77 Ir 223.019	Platinum 78 Pt 219.085	Gold 79 Au 196.967	Mercury 80 Hg 200.59	
11	11B	Bohrium 107 Bh (262)	Hassium 108 Hs (265)	Meitnerium 109 Mt (266)	Ununennium 110 Uun (267)	Ununnilium 111 Uun (268)	
12	12B	Ununnilium 110 Uun (267)	Ununennium 111 Uun (268)	Unbinilium 112 Uub (269)	Untrium 113 Uut (270)	Unquadrum 114 Uuq (271)	

  

		7B		8B		9B		10B		11B		12B	
7	7B	Manganese 25 Mn 54.938	Chromium 24 Cr 51.996	Iron 26 Fe 55.847	Cobalt 27 Co 58.933	Nickel 28 Ni 58.693	Copper 29 Cu 63.546	Zinc 30 Zn 65.39					
8	8B	Rhenium 75 Re 186.207	Ruthenium 44 Ru 101.07	Rhodium 45 Rh 102.906	Palladium 46 Pd 106.42	Silver 47 Ag 107.868	Cadmium 48 Cd 112.411						
9	9B	Rhodium 45 Rh 102.906	Ruthenium 44 Ru 101.07	Rhodium 45 Rh 102.906	Palladium 46 Pd 106.42	Silver 47 Ag 107.868	Cadmium 48 Cd 112.411						
10	10B	Rosmium 108 Os 223.019	Iridium 77 Ir 223.019	Platinum 78 Pt 219.085	Gold 79 Au 196.967	Mercury 80 Hg 200.59							
11	11B	Bohrium 107 Bh (262)	Hassium 108 Hs (265)	Meitnerium 109 Mt (266)	Ununennium 110 Uun (267)	Ununnilium 111 Uun (268)	Unbinilium 112 Uub (269)	Untrium 113 Uut (270)	Unquadrum 114 Uuq (271)				
12	12B	Ununnilium 110 Uun (267)	Ununennium 111 Uun (268)	Unbinilium 112 Uub (269)	Untrium 113 Uut (270)	Unquadrum 114 Uuq (271)							

  

		7B		8B		9B		10B		11B		12B	
13	13B	Scandium 21 Sc 44.956	Titanium 22 Ti 47.86	Vanadium 23 V 50.942	Chromium 24 Cr 51.996	Manganese 25 Mn 54.938	Iron 26 Fe 55.847	Cobalt 27 Co 58.933	Nickel 28 Ni 58.693	Copper 29 Cu 63.546	Zinc 30 Zn 65.39		
14	14B	Yttrium 39 Y 88.906	Zirconium 40 Zr 91.224	Niobium 41 Nb 92.906	Molybdenum 42 Mo 95.94	Technetium 43 Tc 97.907	Ruthenium 44 Ru 101.07	Rhodium 45 Rh 102.906	Palladium 46 Pd 106.42	Silver 47 Ag 107.868	Cadmium 48 Cd 112.411		
15	15B	Strontium 38 Sr 87.62	Zirconium 40 Zr 91.224	Niobium 41 Nb 92.906	Molybdenum 42 Mo 95.94	Technetium 43 Tc 97.907	Ruthenium 44 Ru 101.07	Rhodium 45 Rh 102.906	Palladium 46 Pd 106.42	Silver 47 Ag 107.868	Cadmium 48 Cd 112.411		
16	16B	Barium 56 Ba 137.327	Hafnium 72 Hf 178.49	Tantalum 73 Ta 180.948	Tungsten 74 W 183.84	Rhenium 75 Re 186.207	Osmium 76 Os 190.2	Iridium 77 Ir 223.019	Platinum 78 Pt 219.085	Gold 79 Au 196.967	Mercury 80 Hg 200.59		
17	17B	Radium 88 Ra 226.025	Rutherfordium 104 Rf (261)	Dubnium 105 Db (262)	Seaborgium 106 Sg (263)	Rhodium 107 Bh (262)	Hassium 108 Hs (265)	Meitnerium 109 Mt (266)	Ununennium 110 Uun (267)	Ununnilium 111 Uun (268)	Unbinilium 112 Uub (269)	Untrium 113 Uut (270)	Unquadrum 114 Uuq (271)

  

		7B		8B		9B		10B		11B		12B	
18	18B	Praseodymium 59 Pr 140.908	Cerium 58 Ce 140.115	Neodymium 60 Nd 144.24	Promethium 61 Pm 144.913	Eurprium 63 Eu 151.965	Gadolinium 64 Gd 157.25	Terbium 65 Tb 158.925	Dysprosium 66 Dy 162.50	Hoium 67 Ho 164.930	Erbium 68 Er 167.26	Thulium 69 Tm 168.934	Ytterbium 70 Yb 173.04
19	19B	Protactinium 91 Pa 231.036	Thorium 90 Th 232.038	Uranium 92 U 238.029	Neptunium 93 Np 237.048	Americium 95 Am 243.061	Curium 96 Cm 247.070	Berkelium 97 Bk 247.070	Californium 98 Cf 251.080	Einsteinium 99 Es 252.083	Fermium 100 Fm 257.095	Mendelevium 101 Md 258.10	Nobelium 102 No 259.101
20	20B	Unbinilium 112 Uub (269)	Ununennium 111 Uun (268)	Ununennium 111 Uun (268)	Unbinilium 112 Uub (269)	Unbinilium 112 Uub (269)	Untrium 113 Uut (270)	Unquadrum 114 Uuq (271)	Unquadium 115 Uuq (272)	Unpentium 116 Uup (273)	Unsextium 117 Uus (274)	Unseptium 118 Uus (275)	Unoctium 119 Uuo (276)