Sec1 Sci C7p WS Sorting the elements

The Periodic Table of the Elements

Group																	
I	II											III	IV	V	VI	VII	0
T H Hydrogen										4 He Helium							
7 Li Lithium	9 Be Beryllium											11 B Boron	12 C Carbon	14 N Nitrogen 7	16 O Oxygen 8	19 F Fluorine 9	20 Ne Neon
23 Na Sodium	Mg Magnesium	27 28 31 32 35.5 A									40 Ar Argon						
39 K Potassium	40 Ca Calcium	45 Sc Scandium	48 Ti Titanium	51 V Vanadium	52 Cr Chromium	55 Mn Manganese	Fe Iron	59 Co Cobalt	59 Ni Nickel	64 Cu Copper	65 Zn Zinc	70 Ga Gallium	73 Ge Germanium	75 As Arsenic	79 Se Selenium	80 Br Bromine	Kr Krypton
85 Rb Rubidium	88 Sr Strontium	89 Y Yttrium	91 Zr Zirconium 40	93 Nb Niobium	96 Mo Molybdenum 42	Tc Technetium 43	101 Ru Ruthenium	103 Rh Rhodium	106 Pd Palladium 46	108 Ag Silver	112 Cd Cadmium 48	115 In Indium	32 119 Sn Tin	33 122 Sb Antimony 51	128 Te Tellurium 52	127 I lodine 53	131 Xe Xenon 54
133 Cs Caesium 55	137 Ba Barium 56	139 La Lanthanum 57 *	178 Hf Hafnium 72	181 Ta Tantalum 73	184 W Tungsten 74	186 Re Rhenium 75	190 Os Osmium 76	192 Ir Iridium 77	195 Pt Platinum 78	197 Au Gold 79	201 Hg Mercury 80	204 T 2 Thallium 81	207 Pb Lead	209 Bi Bismuth	Po Polonium 84	At Astatine 85	Rn Radon 86
Fr Francium 87	226 Ra Radium 88	Actinium 89 †															
*58-71 Lanthanoid series 190-103 Actinoid series			140 Ce Cerium	141 Pr Praseodymium 59	144 Nd Neodymium 60	Pm Promethium 61	150 Sm Samarium 62	152 Eu Europium 63	157 Gd Gadolinium 64	159 Tb Terbium 65	Dy Dysprosium	Ho Ho Holmium 67	167 Er Erbium 68	169 Tm Thulium 69	173 Yb Ytterbium 70	175 Lu Lutetium 71	
Key	x x	= relative aton = atomic syml = proton (aton	bol	232 Th Thorium 90	Pa Protactinium 91	238 U Uranium 92	Np Neptunium 93	Pu Plutonium 94	Am Americium 95	Cm Curium 96	Bk Berkelium 97	Cf Californium 98	Es Einsteinium 99	Fm Fermium 100	Md Mendelevium 101	No Nobelium 102	Lr Lawrencium 103

- 1 Colour in your copy of the Periodic Table to show the metals. Show this colour in a key.
- 2 Choose a different colour. Colour in the squares that contain non-metals. Add the colour to your key.
- 3 There are only two elements in the Periodic Table that are liquids. One is a metal, and one is a non-metal. Pick another colour, and outline the squares with these two elements in. Add this outline colour to your key.
- Find the elements that are gases. How many gases are there in the table? _____Pick another colour and outline all the squares of elements that are gases. Add this colour to your key.
- 5 a What state are all the rest of the elements in?
 - **b** How many elements are there in this state?
- 6 Use your copy of the Periodic Table to look up the elements represented by each of these symbols. Write each symbol into the table below in the correct box.

Fe Al S Hg O Cu Zn N C He Ag Br Cl Au H Mg

Metal	Non-metal
	Metal

Extension: Are there any other elements? Are there any other states of matter?



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The Periodic Table of the Elements

Group																	
I	II	III IV V VI								VI	VII	0					
							1 H Hydrogen										4 He Helium
7	9]										11	12	14	16	19	20
Li	Ве											В	С	N	0	F	Ne
Lithium 3	Beryllium 4											Boron 5	Carbon 6	Nitrogen 7	Oxygen 8	Fluorine 9	Neon 10
23	24	1										27	28	31	32	35.5	40
Na	Mg										Ar						
Sodium 11	Magnesium 12		Aluminium Silicon Phosphorus Sulfur Chlorine								Argon 18						
39	40	45	48	51	52	55	56	59	59	64	65	70	73	75	79	80	84
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr
Potassium 19	Calcium 20	Scandium 21	Titanium 22	Vanadium 23	Chromium 24	Manganese 25	Iron 26	Cobalt 27	Nickel 28	Copper 29	Zinc 30	Gallium 31	Germanium 32	Arsenic 33	Selenium 34	Bromine 35	Krypton 36
85	88	89	91	93	96		101	103	106	108	112	115	119	122	128	127	131
Rb	Sr	Υ	Zr	Nb	Мо	Тс	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Те	I	Xe
Rubidium 37	Strontium 38	Yttrium 39	Zirconium 40	Niobium 41	Molybdenum 42	Technetium 43	Ruthenium 44	Rhodium 45	Palladium 46	Silver 47	Cadmium 48	Indium 49	Tin 50	Antimony 51	Tellurium 52	lodine 53	Xenon 54
133	137	139	178	181	184	186	190	192	195	197	201	204	207	209			
Cs	Ва	La	Hf	Та	W	Re	Os	Ir	Pt	Au	Hg	T1	Pb	Bi	Po	At	Rn
Caesium 55	Barium 56	Lanthanum 57 *	Hafnium 72	Tantalum 73	Tungsten 74	Rhenium 75	Osmium 76	Iridium 77	Platinum 78	Gold 79	Mercury 80	Thallium 81	Lead 82	Bismuth 83	Polonium 84	Astatine 85	Radon 86
	226	227															
Fr	Ra	Ac															
Francium 87	Radium 88	Actinium 89 †															
*58-71 Lanthanoid series 140 141 144 150 152 157 159						162	165	167	169	173	175						
	t 90-103 Actinoid series Ce Pr Nd Pm Sm Eu Gd Tb						1	Dy	Но	Er	Tm	Yb	Lu				
			Cerium 58	Praseodymium 59	Neodymium 60	Promethium 61	Samarium 62	Europium 63	Gadolinium 64	Terbium 65	Dysprosium 66	Holmium 67	Erbium 68	Thulium 69	Ytterbium 70	Lutetium 71	
	a a = relative atomic mass		232		238												
Key	X = atomic symbol		Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr	
b	b b = proton (atomic) number Thorium Protactinium Uranium Neptunium Plutonium Americium Curium Berkelium Californium Einsteinium Fermium Mendelevium Nobelium Lawrencium 102 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103 103							Lawrencium 103									

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Fe Al S Hg O Cu Zn N C He Ag Br Cl Au H Mg

	Metal	Non-metal
solid		
liquid		
gas		

Extension: Are there any other elements? Are there any other states of matter?

