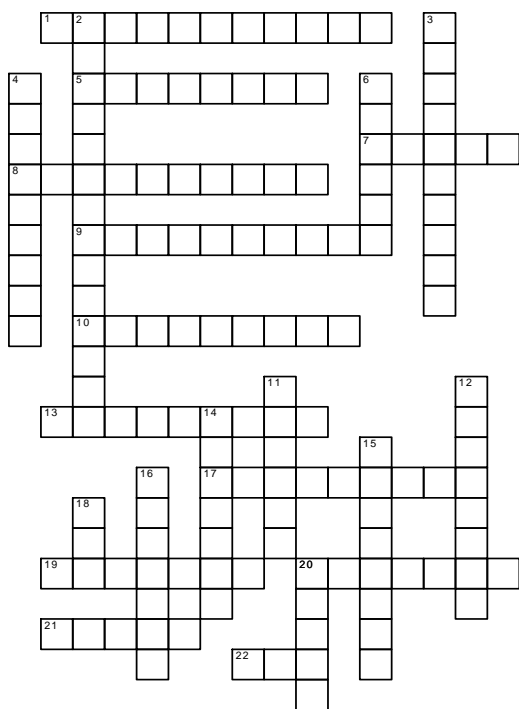


# Periodic Table Assignment

Read pages 14 – 19. Complete the crossword puzzle (in pencil) and fill in the period table as instructed below.



### ACROSS

1. Synthetic elements with atomic numbers greater than 93
5. This law states that the properties of elements repeat as a function of their atomic number
7. Silicon is in this period
8. Elements were originally placed in order of atomic \_\_\_\_, now they are in order of atomic \_\_\_\_.
9. The group that consists of very unreactive gases
10. Number of elements known in 1800
13. Element 101 was named in his honour
17. The periodic table is normally drawn with 18 columns. A more accurate representation has \_\_\_\_ columns
19. Most nonmetals are in this state
20. Nonmetal that is a liquid at SATP
21. The general name given to a column in the periodic table
22. According to figure 6, when aluminum combines with oxygen, three oxygen atoms combine with this many aluminum atoms

### DOWN

2. Elements that most closely follow the periodic law
3. The first scientist to organize elements based on repeating patterns
4. The modern name for eka-silicon
6. Most elements are \_\_\_\_, since they fall to the left of the "staircase line"
11. The general name given to a row (left-to-right) in the periodic table
12. Iodine belongs to this group
14. The first alkali metal
15. This element was assigned a relative atomic mass of one because it is the lightest element
16. The state of matter represented by (aq)
18. Silicon is in this group
20. The staircase that separates metals and nonmetals begins below this element

1	H	1																	He	2																
2	Li	3	Be	4															B	5	C	6	N	7	O	8	F	9	Ne	10						
3	Na	11	Mg	12															Al	13	Si	14	P	15	S	16	Cl	17	Ar	18						
4	K	19	Ca	20	Sc	21	Ti	22	V	23	Cr	24	Mn	25	Fe	26	Co	27	Ni	28	Cu	29	Zn	30	Ga	31	Ge	32	As	33	Se	34	Br	35	Kr	36
5	Rb	37	Sr	38	Y	39	Zr	40	Nb	41	Mo	42	Tc	43	Ru	44	Rh	45	Pd	46	Ag	47	Cd	48	In	49	Sn	50	Sb	51	Te	52	I	53	Xe	54
6	Cs	55	Ba	56	Lu	71	Hf	72	Ta	73	W	74	Re	75	Os	76	Ir	77	Pt	78	Au	79	Hg	80	Tl	81	Pb	82	Bi	83	Po	84	At	85	Rn	86
7	Fr	87	Ra	88	Lr	103	Rf	104	Db	105	Sg	106	Bh	107	Hs	108	Mt	109	110	111	112	113	114	115	116	117	118									
					La	57	Ce	58	Pr	59	Nd	60	Pm	61	Sm	62	Eu	63	Gd	64	Tb	65	Dy	66	Ho	67	Er	68	Tm	69	Yb	70				
					Ac	89	Th	90	Pa	91	U	92	Np	93	Pu	94	Am	95	Cm	96	Bk	97	Cf	98	Es	99	Fm	100	Md	101	No	102				

- 1) Place a large G in boxes that house elements that are gases at SATP, and a large L in boxes that contain elements that are liquids. The rest of the elements are solids; do not write anything in these boxes.
- 2) Darken the "staircase line" that divides metals from non-metals
- 3) Metalloids (i.e. semi-conductors) are elements that have properties midway between metals and non-metals. The metalloids are: B, Si, Ge, As, Sb, Te, Po, At. Identify the metalloids by drawing diagonal lines in these boxes.
- 4) Notice that each group (column) in the periodic table is identified at the top with a number and/or letter. There are two conventions used in the textbook. Label the groups that end in A (e.g. IA, IIA, IIIA, etc).
- 5) Frame and colour the following groups (note: H is not an IA metal): Alkali metals, alkaline earth metals, halogens, noble gasses, transition metals, the inner transition elements (made up of lanthanides and actinides).
- 6) Create a legend for your periodic table.