

Name: _____

Date: _____

BCI SCIENCE**SCH 4U****Periodic Trends:
A Periodic Table Review**

The code letters A to Z have been assigned to the elements which occupy the positions as shown in the short form periodic table below.

	PIFS	LHT	ZRD	GUN	YMC	QKA	WOV	EBJX
Group	1	2	13	14	15	16	17	18
Period 1	F (14)							X (19)
Period 2	S (16)	H (10)	D (9)	U (2)	Y (22)	Q (13/14)	V (11)	B (17)
Period 3	I (16)	T (10)	Z (15)	N (13)	C (22)	A (18)	O (21)	E (19)
Period 4	P (16)	L (10)	R (15)	G (13)	M (22)	A (18)	W (21)	J (3)

Arrange these elements in the proper periodic order using the following clues:

- The following elements belong together in families: ZRD, PIFS, EBJX, LHT, QKA, WOV, YMC, GUN
- U has a total of six electrons.
- J has 26 protons.
- S is an alkali metal.
- D has 3 electrons in its outer energy level.
- O is a halogen.
- C has 5 electrons in its outer energy level.
- L, H and T all have metallic properties.
- D is a non-metal.
- The atomic mass of T is more than that of H but less than L.
- The ionization energy of V is greater than A, O and W. →
- M has an atomic number one less than that of A. *M beside A*
- The electrons of atom N are distributed over three energy levels.
- F is a gas.
- R has the largest atomic mass of its group.
- Atoms of I are more reactive than those of S but less than those of P.
- Atom B contains 10 protons.
- Q has an atomic mass less than that of K. *Q above K*
- X has an atomic number one higher than that of F.
- Y has an ionization energy greater than C. *Y above C*
- W is a liquid at room temperature.
- M has more electrons than C but fewer than A.

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BCI SCIENCE**SCH 4U****Periodic Trends:****Atoms or Ions**

Complete the table below:

	Element	Symbol of Atom or Ion	Nuclear Charge (# of p^{+1})	Number of Electrons	Number of Neutrons	Mass Number
1	phosphorus	P^{3-}	15	18	16	31
2	tin	Sn^{2+}	50	48	68	118
3	sulphur	S^{2-}	16	18	16	32
4	neon	Ne	10	10	10	20
5	arsenic	As^{3+}	33	30	42	75
6	aluminum	Al	13	13	14	27
7	oxygen	O^{2-}	8	10	8	16
8	mercury	Hg^{+1}	80	79	122	202
9	silver	Ag^{+1}	47	46	63	110
10	fluorine	F^{-1}	9	10	10	19
11	potassium	K^{+1}	19	18	20	39
12	copper	Cu^{+2}	29	27	34	63
13	cesium	Cs^{+1}	55	54	78	133
14	carbon	C	6	6	8	14
15	iron	Fe^{+3}	26	23	30	56
16	zinc	Zn^{+2}	30	28	34	64
17	barium	Ba^{+2}	56	54	82	138
18	boron	B^{+3}	5	2	6	11
19	bromine	Br^{-1}	35	36	45	80
20	chromium	Cr^{+3}	24	21	28	52
21	scandium	Sc^{+3}	21	18	24	45
22	silicon	Si	14	14	14	28
23	chlorine	Cl^{-}	17	18	20	37
24	gold	Au^{+3}	79	76	118	197
25	hydrogen	H	1	1	1	2