

Name: _____

Periodic Table Quiz #1

The object of this lesson is to use the periodic properties of the elements to fill in the attached chart. The code letters A to Z have been assigned to the first 26 representative elements in the periodic table. The code letters do not represent certain chemical symbols, thus, C may not be carbon, nor have the letters been assigned in alphabetical order.

These letters are presented in families, and your task is to arrange these letters in the proper location in the periodic chart. To do this, use the clues given pertaining to certain members of each family. The numbers in each square in the table are the atomic numbers of the elements.

The best way to start is to use the clues to find in which group each family belongs, and then to arrange the elements within the family using the other clues. The following elements belong together in families: ABC, DEF, GHI, JKL, MNO, PQR, STUV, and WXYZ.

Clues:

1. The ionization potential of N is less than O, but larger than M.
2. O has been known to exhibit a -4 oxidation state.
3. X is larger than Y but smaller than Z.
4. Q is the most active element in its group, and forms the compound T_2Q .
5. F and J are the largest atoms in their groups.
6. X is the smallest atom in its period.
7. Both A and U are in the same period, but A reacts more slowly with Q a chalcogen.
8. Both S and T explode on contact with water, but T reacts more rapidly.
9. No compounds of W are known to exist.
10. The maximum positive oxidation state of J is a $+5$.
11. K is more reactive than L and G is more reactive than H.
12. C is larger than G but smaller than T.
13. R needs to gain electrons to complete an octet in the third energy level.
14. A is the smallest Alkaline earth element.
15. D is the only halogen that does not exhibit a positive oxidation state.

The following Periodic Table shows only the Group A elements. Note that the atomic numbers jump from 20 to 31 in the fourth period. This is because elements 21 through 30, the transition elements, belong to the B Groups.

I A							VIII A
	II A	III A	IV A	V A	VI A	VII A	
1							2
3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18
19	20	31	32	33	34	35	36