NAME: **HONORS CHEMISTRY**

SECTION: A Periodic Puzzle

The code letters A to Z have been arbitrarily assigned to the first 26 main-group elements. Place these elements in the correct location on the short-form Periodic Table according to the information given below. The best way to start is to find in which family each group belongs. Then, arrange the elements within the group. The following elements belong together in groups**:**

VZJ, MLR, PXA, DUW, GHON, KSB, IYQ, FCTE

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | I |  |  |  |  |  |  | VIII |
| 1 |  | II | III | IV | V | VI | VII |  |
| 2 |  |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |  |  |

**The following clues are given:**

U can have an excited electron configuration of 1s2 2sl 3px1.

There are 7 valence electrons in all X atoms.

I has 4 fewer electrons than W.

T is the only member of its group that does not conduct an electrical current.

N has 4 electron pairs in its outermost occupied energy level.

Element F has 5 completely filled orbitals in each atom.

L has a single electron in all three “p” orbitals of the outermost occupied energy level.

H has its outermost electrons in the 3p sublevel.

D has a higher electronegativity than W.

K has “d” electrons, while O does not.

A is the most electronegative element in its group is A.

In its group, M has the smallest atomic radius.

O has two more **“**p**”** electrons in its last occupied energy than element I has.

C has a lower ionization energy than does E.

P+1 and S-2 have the same electron configuration as I.

There are no “p” electrons in element G.

V has 11 more electrons than W.

J+3 has the same electron configuration as O.

In its ground state, Y has a principal quantum number n = 4.

R-2 has eight electron pairs.