

A Periodic Table Exercise

The code letters A to Z have been assigned to the first 26 elements in the short form periodic table (omitting the first 26 elements in period 4). These code letters do not represent the chemical symbols nor have the letters been assigned in alphabetical order. Study the given clues based on experimental data. Then place the code letters in their correct positions in Table A and fill in the correct atomic number for each element in Table B (reverse side).

CLUES

- 1) The following elements belong together in families: BFT, DGLZ, JNV, CMS, QXY, AEO, IPH, UKWR
- 2) If this atom formed ions, the ions for H would be +4 or -4.
- 3) PC_2 is the formula of an oxide (ex. of oxides: CO_2 , SO_2 , CO, MgO, PbO_2).
- 4) G is a noble gas.
- 5) U is an alkali metal.
- 6) E has 5 electrons in its outermost energy level.
- 7) N has 2 valence shell electrons.
- 8) T has an outer electron configuration of $4s^24p^1$.
- 9) Q is a halogen.
- 10) F has the smallest atomic mass in its family.
- 11) T is more metallic than B.
- 12) J has a lower ionization potential than V but a higher ionization potential than K.
- 13) P has the lowest first ionization potential in its family.
- 14) The atomic radius of S is greater than that of C.
- 15) Y is a liquid but Q is a gas at room temperature.
- 16) X melts at a lower temperature than Q.
- 17) W is a gas.
- 18) The most common isotope of Z has two neutrons.
- 19) D contains ten protons.
- 20) The electrons of atom G are distributed over three energy levels.
- 21) H is the least metallic in its group.
- 22) O has a higher boiling point than E.
- 23) A is more metallic than either O or E.
- 24) The atomic mass of V is less than that of J and N.
- 25) The atomic number for R is one greater than that of Z.
- 26) Atoms of K are larger than those of U.
- 27) The last term in M's electronic configuration is $4p^4$.

