

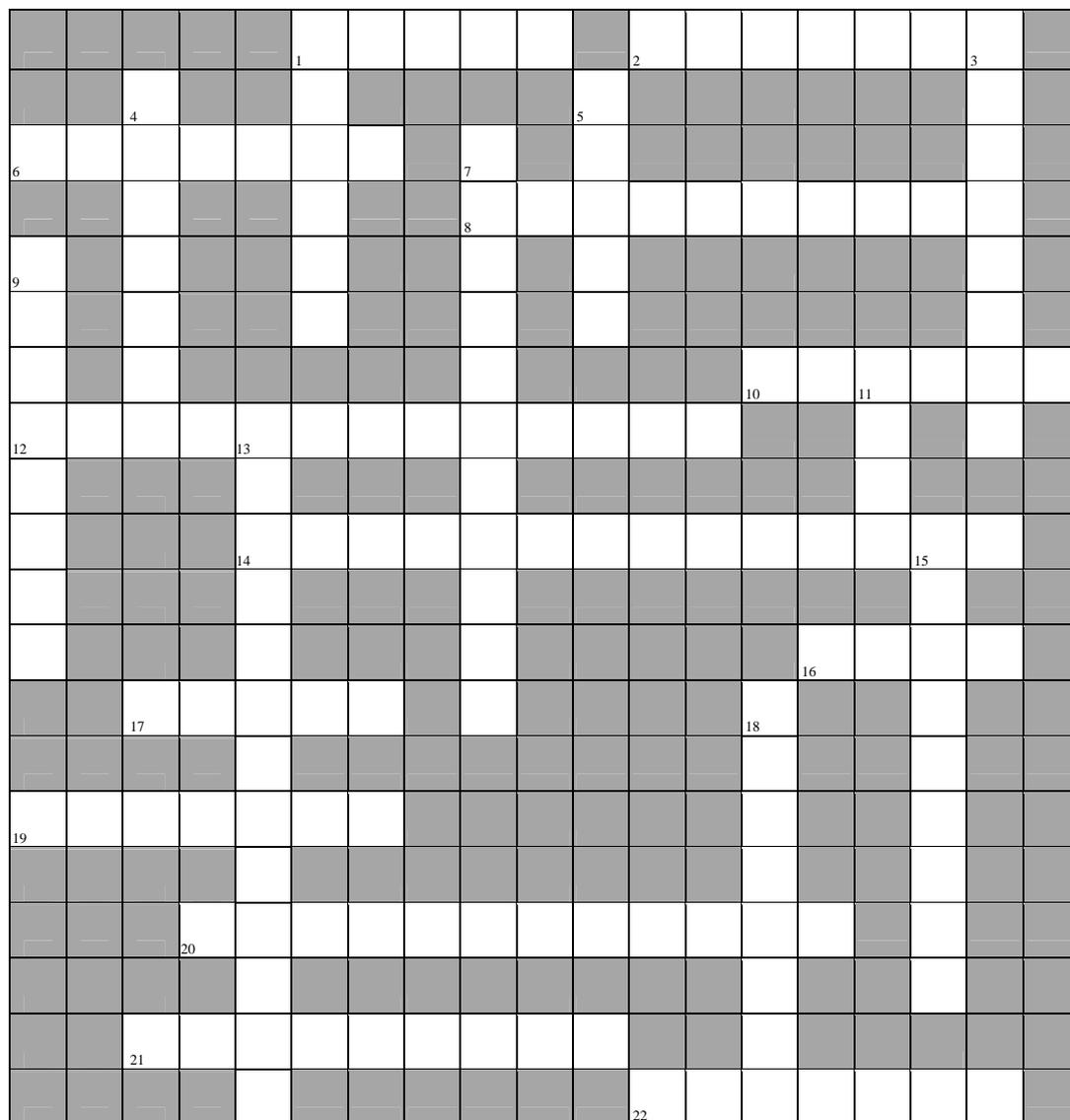


The quantum atom puzzle, Reprinted from Chem 13 News April 1997, page 15

Across

1. The requirement that no two electrons in an atom have the same four quantum numbers.
2. Set of four (4) numbers to describe a specific electron in an atom.
6. Neutral fundamental particle of an atom.
8. Removal or addition of an electron from an atom or molecule.
10. Orbital constructed by combining orbitals, usually $s + p$ orbitals.
12. Listing of the electrons within an atom based on sublevels that are filled.
14. Name applied to diagram in which boxes or circles represent valence electrons (two words).
16. Quantum number that specifies clockwise or counterclockwise movement.
17. Old term for the principal energy level of an atom
19. Region of space that may be occupied by a maximum of two electrons.
20. Name of energy required to remove an electron completely from a gaseous atom (only first two letters of "energy" are to be used.)
21. Quantum number specified by the letter n .
22. Name applied to the outermost s and p electrons in an atom.

Answers in the next issue of Chem 13 News.



5. Name of rule that states that every orbital in a sublevel must fill with one electron first.
7. Combining of light waves that result in either constructive or destructive reinforcement.
9. Unit of negative charge in the atom.
11. The model of the atom that views electrons as circling the nucleus.
13. Term describing two species with identical electronic configurations.
15. The quantum number that specifies the sublevel abbreviated l .
18. A subdivision of an energy level. ■

Down

1. One of two fundamental particles with a charge.
3. Quantum number that specifies the orbital in which an electron is located.
4. Either a proton or a neutron.