UNITED NATIONS SCHOOL I.E.D.
PEI: COMPREHENSIVE TRAINING OF COMPETENT ENTREPRENEURIAL LEADERS, WITH DEMOCRATIC, TECHNOLOGICAL, CULTURAL AND SPORTS PRINCIPLES
MOTTO: "EDUCATION, SCIENCE, CULTURE AND SPORT TO TRANSCEND"

PREPARATION WORKSHOP FOR THE SECOND PERIOD
CHEMISTRY
SEVENTH GRADE
TEACHER HEISEL QUESADA

The preparation workshop must be carried out in the Chemistry notebook as a requirement to take the competency test

Delivery date: July 15 2024

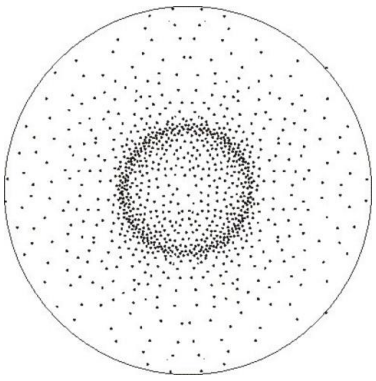
Ask questions 1 to 5 with the following information

Current Atomic Model or Orbital Model

This atomic model was developed in the 1920s, as a result of the contribution of knowledge from many scientists, including Broglie, Einstein, Bohr, Schrödinger and Heisenberg. It is based on wave quantum mechanics, which is based on quantum numbers. The quantum numbers are 4 : n, l, m, s. They are used to describe each of the electrons in an atom. It should be noted that, for electrons of the same atom, the combination of these 4 numbers is never the same. In this theory it is stated that:

- In atoms, electrons are distributed in stationary or fixed energy levels. Electrons move around the nucleus without losing or gaining energy and only do so when they move from one level to another.
- An energy level is made up of an equal number of sublevels.
- An energy sublevel consists of one or more orbitals or electron clouds.

An orbital or electron cloud is filled with two electrons with opposite rotation, that is, different spin number (quantum number s).



Graph: Atom according to the Current Atomic Model The graph represents a superposition of photos of an atom, in which the position of the electron present in that orbital was captured in each of them. Electrons are represented by black dots. The area where there are the most black dots is the area with the highest probability of finding the electron, that is, the orbital. Being spherical it is an orbital s.

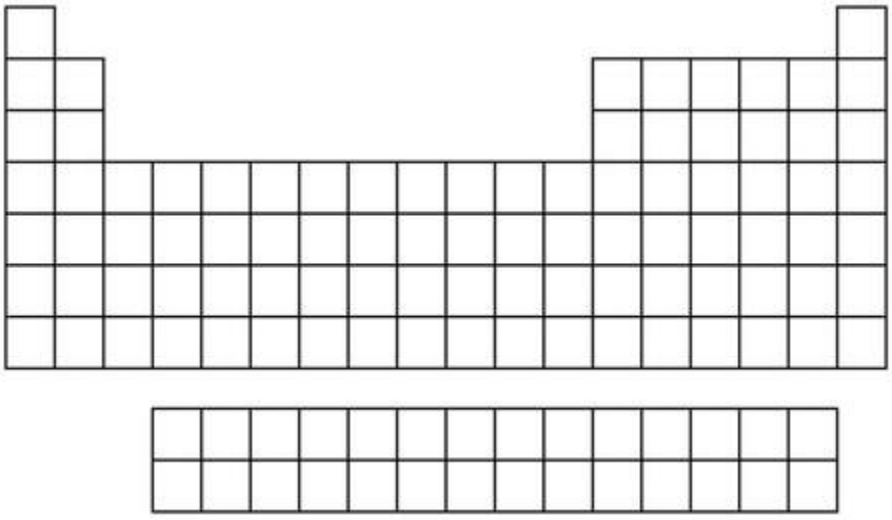
1. Consult the biographies of the scientists who contributed to the current atomic model

2. From the reading, write 3 statements that are true and 3 that are false. Write the false ones correctly as well

3. Make a concept map from the text

4. Why does the atom scheme in the text represent the orbital S?

5. By means of a schema it represents the sublevels p, d and f



6. Locate the atomic numbers 30, 85, 90, 43 and predict their properties (last energy sublevel, zone, group, level)

7. According to the diagram, it explains how the periodic table is designed 8.

8. Perform spectral notation with Moeller's scheme of the atoms in point 1

9. Choose an element from each zone (s, p, d, f) and check its properties

10. Calculate the number of elements in each zone and the total of the periodic table