

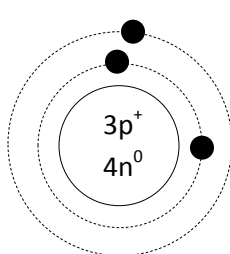
ELECTRON ARRANGEMENTS AND THE BOHR-RUTHERFORD DIAGRAM (pg. 185)

The Bohr-Rutherford diagram of the atom is a useful way of representing the arrangement of _____ around the _____ for the first 20 elements. Each electron _____ is shown as a ring around the nucleus. Evidence indicates that only a _____ number of electrons can occupy each orbit. The first orbit can hold a maximum of _____ electrons. Elements with _____ numbers above 18 must have some electrons in the _____ orbit. Because all atoms are electrically _____, the total number of electrons in these orbits must match the number of _____ in the _____.

An atom of lithium is sometimes represented as _____. This means that this particular atom has a mass of _____. The mass number is the total number of _____ and _____. Lithium atoms always have _____ protons, so this atom must also have four _____ in the nucleus. To balance the charge of the three _____, three _____ must be orbiting the nucleus. The first orbit can hold up to _____ electrons. Since the third electron cannot fit in the first orbit, it has to go in a _____ orbit.

The second orbit can accommodate up to _____ electrons. So as you proceed from element to element, the number of electrons in the second orbit _____ by one until there are _____, the maximum number. Fluorine has _____ electrons in its second orbit and neon has _____ in its second orbit. The outermost electron of sodium is in the _____ orbit. Notice that the _____, or row number of an element tells you how many electron _____ the atoms have.

DRAW BOHR-RUTHERFORD DIAGRAMS FOR THE FIRST 20 ELEMENTS (UP TO Ca, CONTINUE ON BACK)

H	He		Be
B	C	N	O