

Draw the Bohr model diagram for the IONS of the first 20 elements of the periodic table

**Questions:**

1. For the *metallic* elements, what is the relationship between the ion charge and the number of electrons in the outer shell?
2. For the *non-metals*, what is the relationship between the ion charge and the number of electrons in the outer shell?
3. Compared the number of vacancies, or empty spaces, in the outer shell of the non-metals with the ion charges. What is the relationship?
4. How many electrons are in the outer shell of the elements Lithium (Li) and Sodium (Na) in Group 1?
5. How many vacancies are in the outer shell of the elements Fluorine (F) and Chlorine (Cl) in Group 17?
6. What is the pattern between the number of electrons in the outer shell of an element and its positioon along the row in the Periodic Table?
7. How many shells are needed for the elements in each of the first four rows of the Periodic Table?