

Full Valence Shells

Use with textbook page 127.

1. What information does the charge of an ion give?

2. Why do atoms become ions? _____

3. a) Draw the Bohr diagram for a fluoride ion and a sodium ion in the first two columns of the table.

Fluorine Ion	Sodium Ion	Noble Gas = _____

b) What noble gas would have the same electron arrangement as a fluoride ion and a sodium ion? Draw the Bohr diagram for that noble gas in the third column of the table above.

c) What do these two ions have in common with the noble gas?

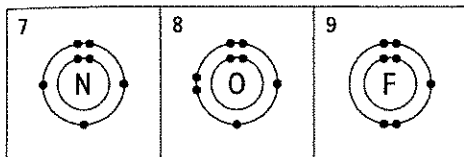
4. a) Draw the Bohr diagram for a helium atom in the first column of the table.

Helium Atom	Ion #1 = _____	Ion #2 = _____

b) What two ions would have the same electron arrangement as a helium atom? Draw the Bohr diagrams for these two ions in the second and third columns in the table above.

Electron Arrangements Show Patterns*Use with textbook page 126.*

1. Consider the electron arrangements of nitrogen, oxygen, and fluorine.



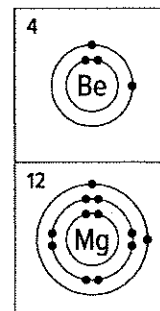
- a) What do all three of these elements have in common with respect to their position on the periodic table?
-
- _____

- b) How is the number of occupied energy shells related to the period?
-
- _____

2. Consider the electron arrangements of beryllium and magnesium.

- a) What do elements in Group 2 have in common?
-
- _____

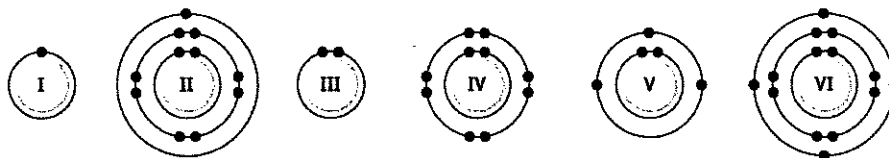
- b) How does this relate to their group number?
-
- _____



3. a) Which family on the periodic table has full valence shells?
-
- _____

- b) How is the electron arrangement in helium different from the other noble gases?
-
- _____

4. Consider the six elements shown.



- a) Which of these elements belong to the same group?
-
- _____

- b) Which of these elements belong to the same period?
-
- _____