

Structural formula

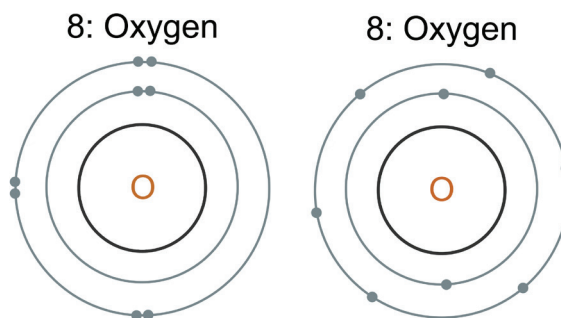
A generic description of a model that shows the bonding relationships of the atoms in the molecule.

Valence electrons

Outer shell electrons.

STUDY QUESTIONS

1. What is a molecule?
2. From an electron-in-the-outer-shell standpoint, what is the difference between these two Bohr models?



3. True or False: valence electrons are the same thing as “electrons in the outer shell.”
4. Which Periodic Table Groups include the main group elements?
5. Why do we separate the elements into two general groups—the transition metals and the main group elements?
6. True or False: gold is a main group element.
7. True or False: radium is a main group element.
8. True or False: the element in Row 5, Group 10 is a main group element.
9. True or False: all elements in Group 15/5A have 5 valence electrons.
10. Which main group elements have 3 valence electrons?
11. True or False: since they are in the same period, iodine (I) and tin (Sn) have the same number of valence electrons.
12. Why is the 8-group categorization system so helpful when referring to the main group elements?
13. Draw the Bohr models for potassium, sulfur and carbon, and indicate the valence electrons.
14. From what Periodic Table Group are the following electron dot diagrams? Note that the “X” does not indicate an element; “X” is what you are trying to figure out (sometimes that throws students off, so for “A,” I would like for you to tell me what Periodic Table group has 4 valence electrons).

