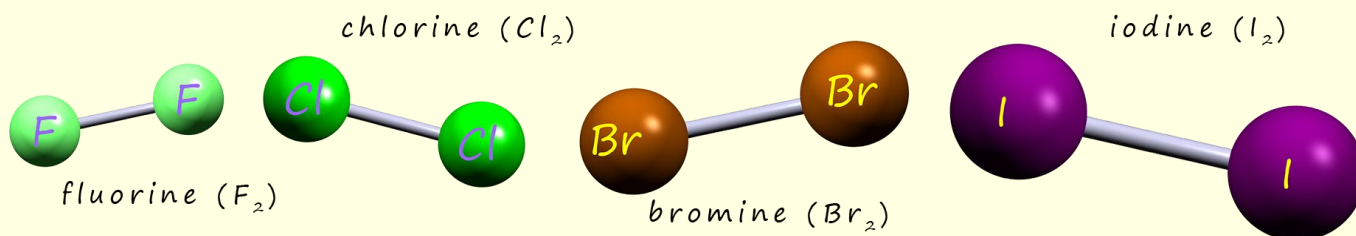


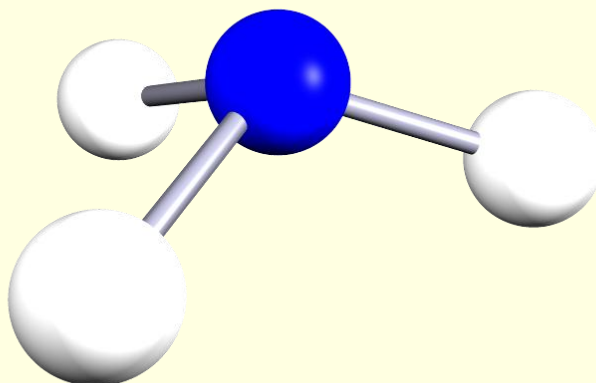
COVALENT COMPOUNDS

Answer all the questions below then check your answers

1. How is a covalent bond formed?
2. Are covalent bonds strong or weak bonds?
3. The halogens in group 7 are all diatomic molecules held together by single covalent bonds.



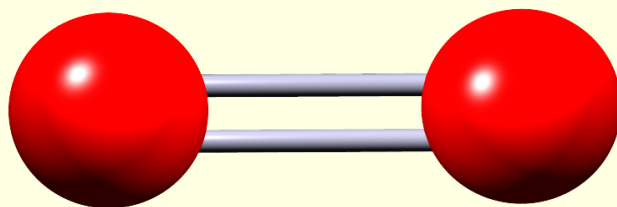
- a. What is a diatomic molecule?
- b. Draw a dot and cross diagram to show how a molecule of fluorine (F_2) is formed. Fluorine has the symbol F and its atomic number is 9.
- c. Ammonia is a small covalent molecule, formula NH_3
- d. Describe the bonding in an ammonia molecule.



e. Draw a dot and cross diagram to show the covalent bonding in ammonia.

4. Oxygen is a small diatomic molecule with a double covalent bond between the atoms, shown opposite.

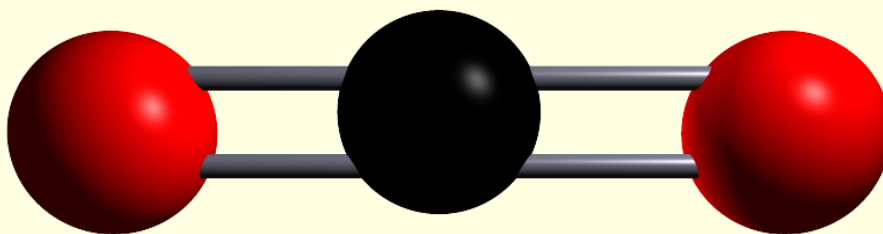
a. Draw a dot and cross diagram to show the bonding in an oxygen molecule.



5. Carbon dioxide is another small molecule. Its structure is shown below

a. What is the formula for this molecule?

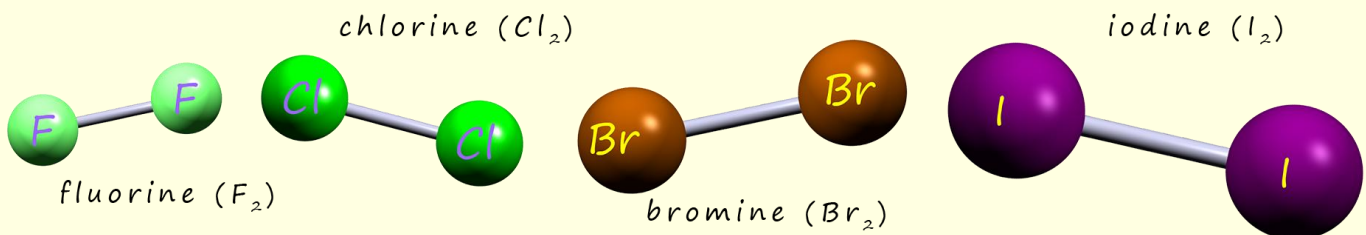
b. Draw a dot and cross diagram to show the bonding in carbon dioxide.



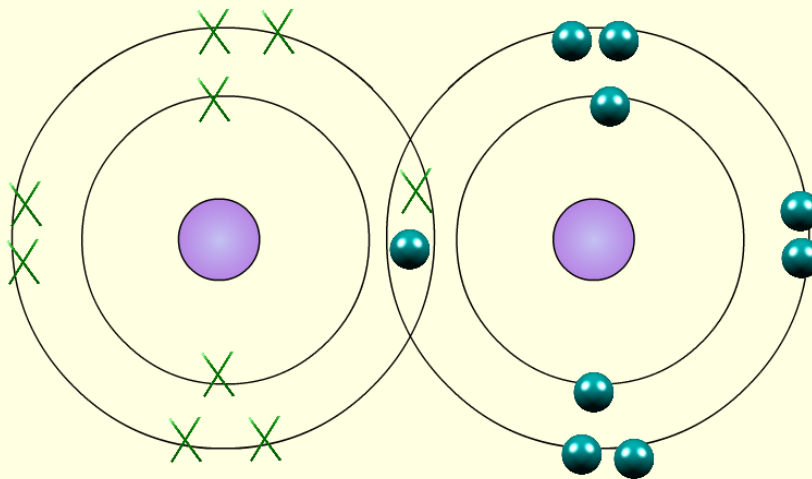
Covalent bonding

Answers

1. How is a covalent bond formed? *By 2 non-metals atoms sharing a pair of electrons equally.*
2. Are covalent bonds strong or weak bonds? *Covalent bonds are strong bonds.*
3. The halogens in group 7 are all diatomic molecules held together by single covalent bonds.



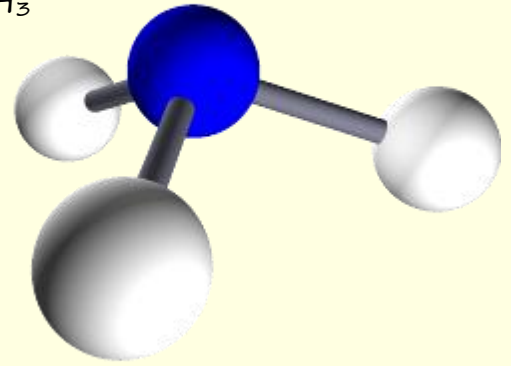
- a. What is a diatomic molecule? *A molecule made up of 2 atoms.*
- b. Draw a dot and cross diagram to show how a molecule of fluorine (F_2) is formed. Fluorine has the symbol F and its atomic number is 9.



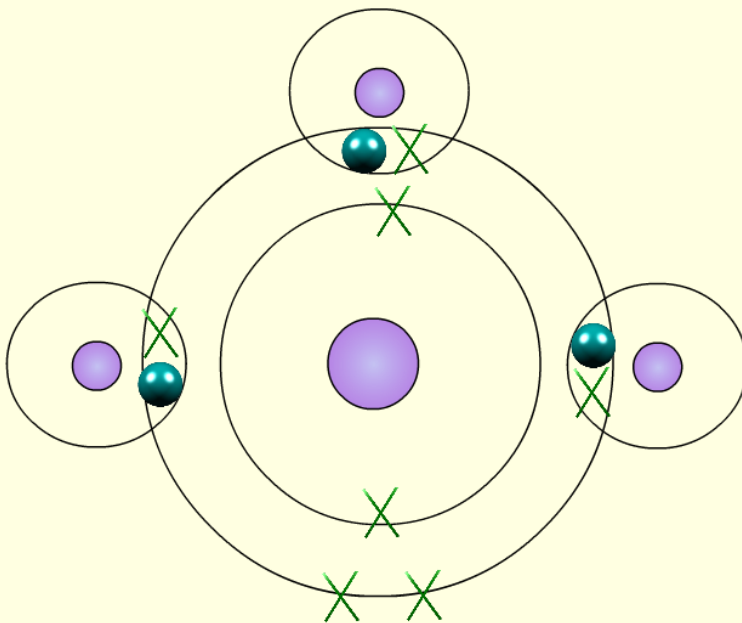
c. Ammonia is a small covalent molecule, formula NH_3

d. Describe the bonding in an ammonia molecule.

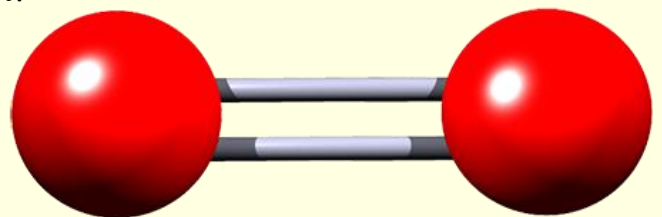
Ammonia has 3 single covalent bonds between the hydrogen and nitrogen atom.



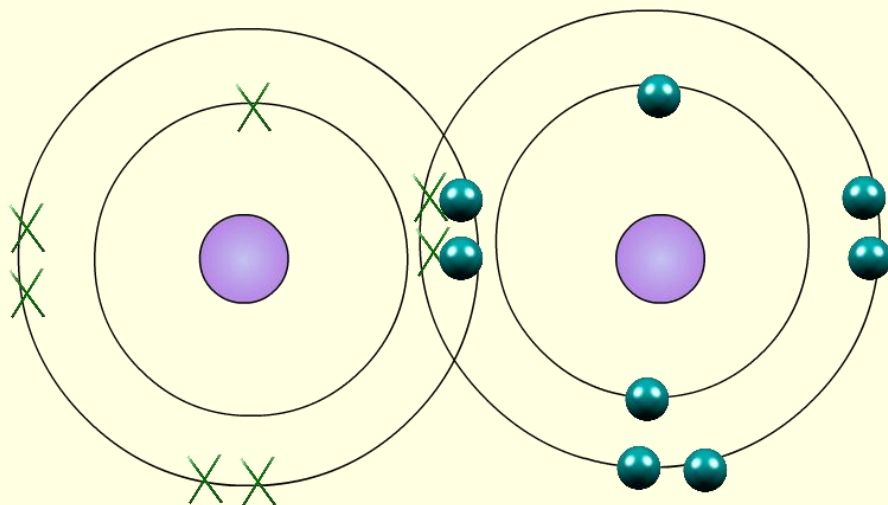
e. Draw a dot and cross diagram to show the covalent bonding in ammonia.



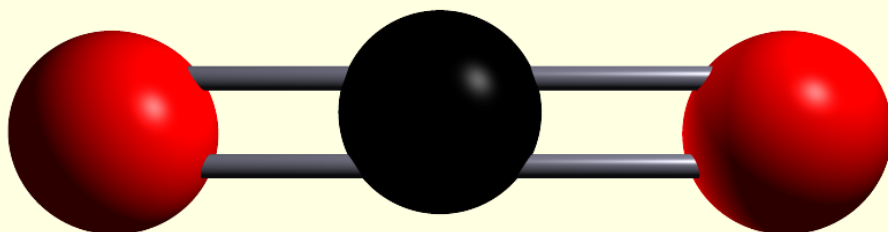
4. Oxygen is a small diatomic molecule with a double covalent bond between the atoms, shown opposite.



a. Draw a dot diagram to show the bonding in an oxygen molecule.



5. Carbon dioxide is another small molecule. Its structure is shown below



a. What is the formula for this molecule? CO_2

b. Draw a dot and cross diagram to show the bonding in carbon dioxide.

