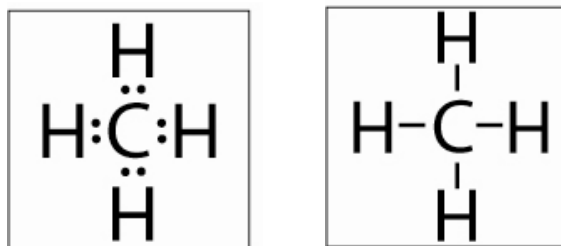


Chapter 4, Lesson 6 Activity Sheet Answers

1. The dots in the outermost energy level are the ones that are shown in Lewis dot structures.
2. The drawings for Hydrogen and Helium in the energy level chart are exactly the same in the Lewis dot diagram because Hydrogen and Helium have only one energy level. Because Lewis structures show electrons on the outermost energy level, the representations in the energy level diagram and the Lewis dot diagram are the same.
3. The pair of dots between the two Hs represents electrons being shared between two hydrogen atoms, which is a covalent bond.
4. The line between the two Hs also represents electrons being shared between two hydrogen atoms, which is a covalent bond.

5.



6. There are four dots between the two Os because two pairs of electrons are being shared. Because one pair of electrons is a single covalent bond, two pairs are two covalent bonds. This is called a double bond. The two oxygen atoms are double bonded to one another.
7. There are two lines between the carbon atom and each oxygen atom because the carbon is double-bonded to each oxygen atom.
8. There are no electrons surrounding sodium in the second dot diagram because it donates its outermost electron to chlorine. Because only outermost electrons are shown in Lewis diagrams, when the Sodium atom donates its only outermost electron, there is nothing to show.
9. No, sodium and chlorine are not sharing electrons. This diagram shows that the two ions which were formed, the sodium ion which resulted from it donating an electron, and the chloride ion, which resulted in chlorine accepting an electron from sodium, are attracted to one another as ions. These atoms do not share electrons and are not covalently bonded.