

1 Chapter 2 Worksheets – Answer Key

D. Molecules and Compounds

1. Two or more atoms may combine to form a molecule.
2. A molecular formula depicts the numbers and kinds of atoms in a molecule.
3. The subscripts in a molecular formula indicate how many atoms of each element are present.
4. When atoms of different elements combine molecules of substances called compounds form.

E. Bonding of Atoms

1. Bonds form when atoms combine.
2. Electrons of an atom are found in energy shells.
3. The first electron shell can hold two electrons.
4. The second electron shell can hold eight electrons.
5. The third electron shell of an atom with an atomic number 18 will hold eight electrons.
6. Innermost electron shells are filled first.
7. An atom will react with another atom if its outermost shell is not completely full of electrons.
8. Inert atoms are atoms that have completely full outermost electron shells.
9. Atoms with incompletely filled outer shells tend to lose, gain, or share electrons in ways that empty or fill their outer shells to become stable.
10. Ions are atoms that gain or lose electrons and become electrically charged.
11. A sodium atom loses one electrons to become stable.

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holder, click on **Test** under the **Benedicts test** in the **Carbohydrate test area**.

2. If the solution turns orange-red, then it indicates that the sample contains a monosaccharide such as glucose. If there is no color change, then there are no carbohydrates in the sample. **Record your observations in the table provided.**
3. **What can you conclude about sample A?**

b. **Carbohydrate Test II: Lugol Test**

1. You will now test sample A with the Lugol Test. Follow the same procedure as listed in step a.1 above with the Lugol indicator and sample A.
2. A positive result occurs when the solution changes to a deep purple color and indicates that there are polysaccharides such as starches in the sample. A negative result occurs when the solution remains an orange color. **Record your observations in the table provided. Does sample A contain a polysaccharide?**
- c. If no color change occurs in either test, then a disaccharide, like table sugar may be present. **Could there be a disaccharide in this sample?**