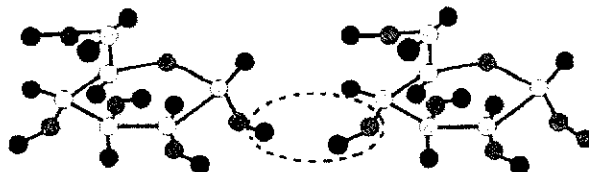


4. Modeling Dehydration Synthesis:

Do **NOT** advance to the next step until you have shown your teacher your model of glucose.

To produce larger carbohydrate molecules, glucose is linked to other simple sugar molecules. During this bonding process, two atoms of hydrogen and one atom of oxygen are removed from the linking sugars. These atoms join together to produce a molecule of water. Hence, this type of sugar bonding is called dehydration synthesis.

1. Find another group that is done completing their glucose model.
2. Place both models side-by-side. Remove the two hydrogen atoms and one oxygen atom that are associated with dehydration synthesis (identified by the dashed line.)



3. Join the free bond of the remaining oxygen atom to the free bond of the carbon atom. Join the three removed atoms together to form a water molecule.
4. Draw a diagram of dehydration synthesis below. Use the structural formula from question 4 showing the atoms that make up glucose. Circle the location of the bonding between the two monomer units that now make a disaccharide. Label the water molecule produced as a result. Show your teacher your model.

Questions:

1. What is the function of carbohydrates?
2. What are the main types of carbohydrates?
3. What is a monomer and provide an example of a carbohydrate monomer.
4. What is a polymer, and provide an example of a carbohydrate polymer.