Name: _____ Date: _____

Building Carbohydrates Activity

Purpose

To introduce students to the structure and components of various disaccharides and polysaccharides.

Materials

- Different colour pipe cleaners (long and short)
- 3 different coloured beads (red, yellow, orange)

Procedure

1. The longer pieces of pipe cleaners represent the polysaccharide back bone. The smaller pieces of pipe cleaner represent the disaccharide back bone and the branch points for the polysaccharides. The colour of the pipe cleaners does not matter. The red beads represent glucose monomers, the yellow beads represent fructose monomers, and the orange beads represent galactose monomers.
2. To make a maltose disaccharide: add 2 red beads onto a short piece of pipe cleaner
3. To make a sucrose disaccharide: add 1 red bead and 1 yellow bead onto a short piece of pipe cleaner.
4. To make a lactose disaccharide: add 1 red bead and 1 orange bead onto a short piece of pipe cleaner.
5. To make a starch polysaccharide: add many red beads onto a long piece of pipe cleaner. Add a few short pieces of pipe cleaner in between beads to represent branch points.
6. To make a glycogen polysaccharide: add many red beads onto a long piece of pipe cleaner. Add many short pieces of pipe cleaner in between the beads to represent the many branch points.
7. To make a cellulose polysaccharide: add many red beads onto a long piece of pipe cleaner very tightly together.
8. Get the class to play around with these materials to see the different structures.