

Carbohydrate Info

SWEET SWEET CARBS

Carbohydrate is a fancy way of saying "sugar." Scientists came up with the name because the compounds have many carbon atoms bonded to **hydroxide** groups. Carbohydrates can be very small or very large molecules, but they are still sugars. What are they used for?



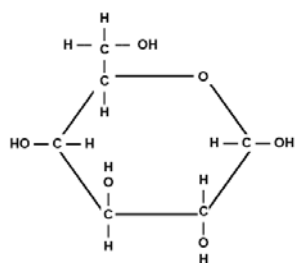
PURE CANE SUGAR IS ONLY ONE EXAMPLE OF THE SUGARS AROUND YOU

WHAT'S IT USED FOR?

A carbohydrate is called an organic compound because it contains carbon. Sugars provide living things with energy and act as substances used for structure. Some examples of structures might be the shell of a crab or the stem of a plant.

SACCHARIDES

Scientists also use the word saccharide to describe sugars. If there is only one sugar molecule, it is called a **monosaccharide**. If there are two, it is a **disaccharide**. If there are three, it is a trisaccharide. You get the idea.



SIMPLE SUGARS

What about the simplest of sugars? A sugar called **glucose** is the most important monosaccharide on Earth. Glucose is used in cellular respiration and created by photosynthesis. When you think of table sugar, like the kind in candy, it is actually a disaccharide. The sugar on your dinner table is made of glucose and another monosaccharide called fructose.

POLYSACCHARIDES

When several carbohydrates combine, it is called a POLYsaccharide ("poly" means many). Hundreds of sugars can be combined in a chain. These chains are also known as starches. You can find starches in foods such as pasta and potatoes. They are very good sources of energy for your body.

SUGARS IN STRUCTURES

An important structural polysaccharide is cellulose. **Cellulose** is found in plants. It is one of those carbohydrates used to support or protect an organism. Cellulose is in wood and the cell walls of plants. You know that shirt you're wearing? If it is cotton, that's cellulose, too!

Polysaccharides are also used in the shells of such crustaceans as crabs and lobsters (**chitin**). It is similar in some ways to the structure of cellulose but has a far different use. The shells are solid, protective structures that need to be molted (left behind) when the crustacean needs to grow. It is very inflexible. On the other hand, it is very resistant to damage. While a plant may burn, it takes very high temperatures to hurt the shell of a crab.



THE CHITIN IN THE SHELLS OF CRUSTACEANS IS A CARBOHYDRATE.