

THE SCIENCE BEHIND Candy

WHAT IS IN CANDY?

Candy comes in a wide variety of forms! While some candy is sugar-free, most candy consumed during Halloween has some form of sugar. The production of candy can become quite the art form. Different ways of mixing and cooling the sugar allow for different types of crystals to form. For example, large crystals can be made for rock candy versus very small crystals as found in fudge. If you haven't yet visited an old-fashioned candy or fudge shop, plan a trip! Watching these confections being made is a truly amazing experience!

There are many different types of sugars, and they can be derived from different sources. For example, cane sugar contains a high amount of sucrose. High fructose corn syrup is another form of sugar used in candy and food production. And as the name suggests, is derived from corn.



WHAT TYPES OF SUGAR ARE THERE?

Types of Sugars and Their Chemical Formulas

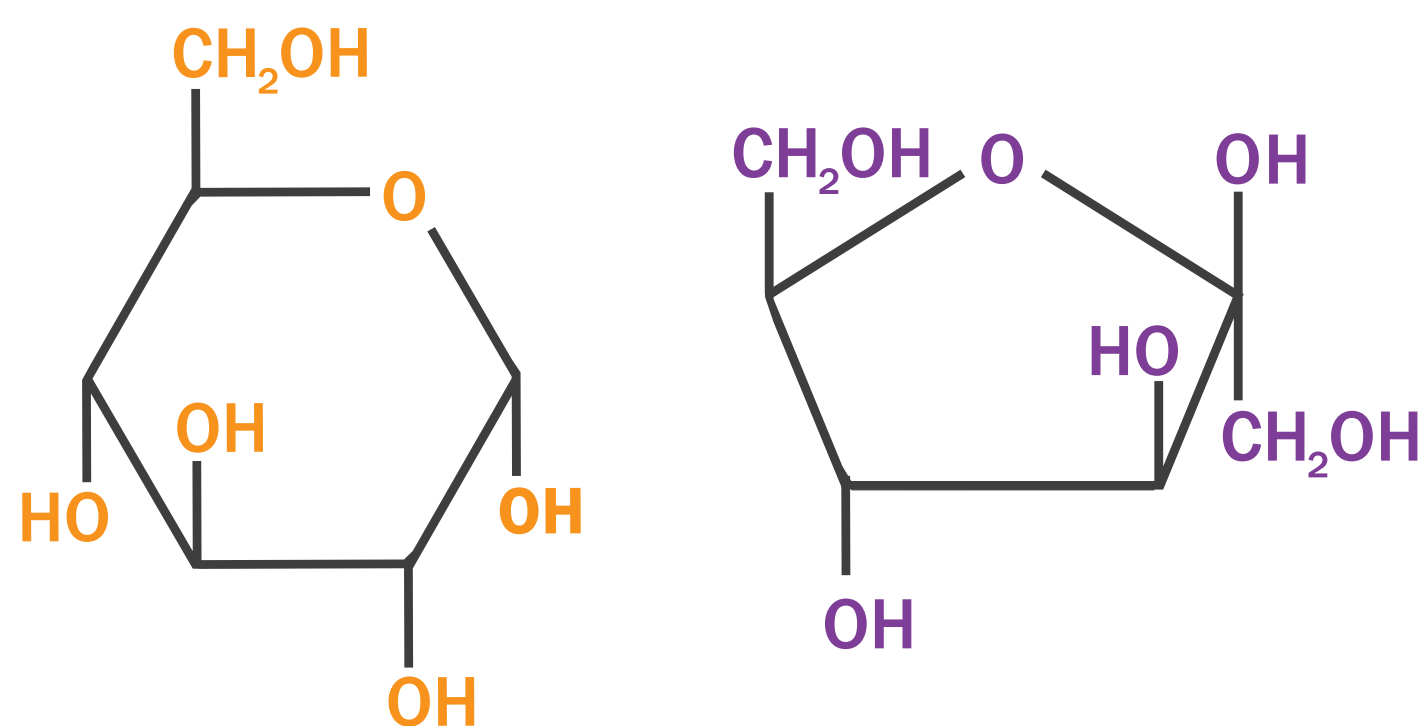
Name	Chemical Formula*
Fructose	$C_6H_{12}O_6$
Glucose	$C_6H_{12}O_6$
Lactose	$C_{12}H_{22}O_{11}$
Maltose	$C_{12}H_{22}O_{11}$
Sucrose	$C_{12}H_{22}O_{11}$

*Even though some sugars have the same chemical formula, the structures in which the atoms combine are different.

FUN FACTS ABOUT CANDY

- 1 For Halloween, commercially wrapped candy did not become the norm until the 1970's. In the early 20th century, trick-or-treaters were given homemade goodies and other items such as fruits, coins, and even toys.
- 2 The first mass produced chocolate bars were made at Fry's chocolate factory in England in 1847.
- 3 In the past, food colorants were added to food with little or no health testing. In 1907, the number of synthetic food dyes approved for use in the United States was reduced from 695 to just seven.

GLUCOSE VS. FRUCTOSE



Glucose and fructose have the same chemical formula, $C_6H_{12}O_6$, but glucose has a six-member ring versus fructose, which has a five-member ring.