THE Education Team
THE NATIONAL MUSEUM OF NUCLEAR SCIENCE & HISTORY

Candy DNA Model Make a double helix of DNA

About DNA

The body is made up of trillions of different cells. These cells contain very important molecules called DNA within the cell's nucleus. The function of DNA is to tell the cells what to do. DNA sends information to our cells for proper function and is responsible for making us unique from one another.

DNA

DNA stands for deoxyribonucleic acid, and it is made up of molecules called nucleotides. Each nucleotide contains a phosphate group, a sugar group, and a nitrogen base.

Four Types of Nitrogen Bases that Determine the DNA's Genetic Code

- Adenine
- Thymine
- Guanine
- Cytosine

These bases determine the DNA's genetic code.

Materials

- Twizzlers (representing the backbone consisting of sugars and phosphates)
- Toothpicks
- Soft candy (i.e. gummy bears, gum drops, etc. to represent the A, T, C, and G nucleotides—should come in four colors)
- Cups to separate candies by color

To Do

STEP 1. Start your candy DNA model by sorting the four colors of candy into separate bowls. Then you want to assign each one to a specific nucleotide. These four nucleotides along with the sugars and phosphates make up your double helix candy DNA model.

- Adenine
- Thymine
- Cytosine
- Guanine

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REMEMBER: Adenine and Thymine are always paired together. Cytosine and Guanine are always paired together.

STEP 2. Now it's time to start making up pairs for building your candy DNA model. Our DNA cannot be seen with the eyes-only high-powered microscopes, but DNA is long, thin molecules.

STEP 3. Now make your own unique strand of candy DNA and twist them into what is known as a double helix.

The backbone (Twizzlers) of your candy DNA model is what gives the double helix a specific shape. They also hold together the A, T, C, and G nucleotides.

Endless combinations can be made, but the same pairs of nucleotides must stick together.