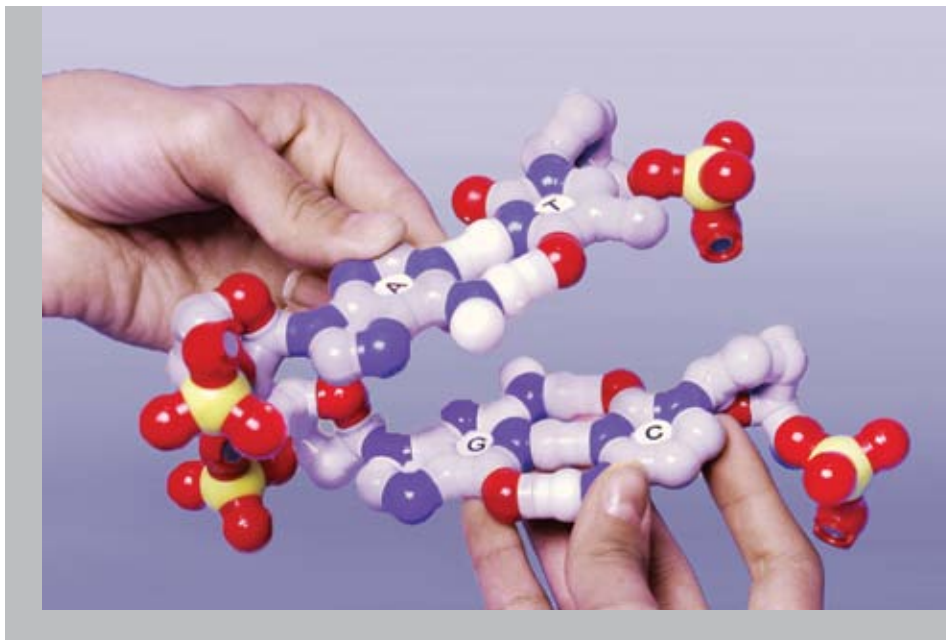


The DNA Discovery Kit®



Contents

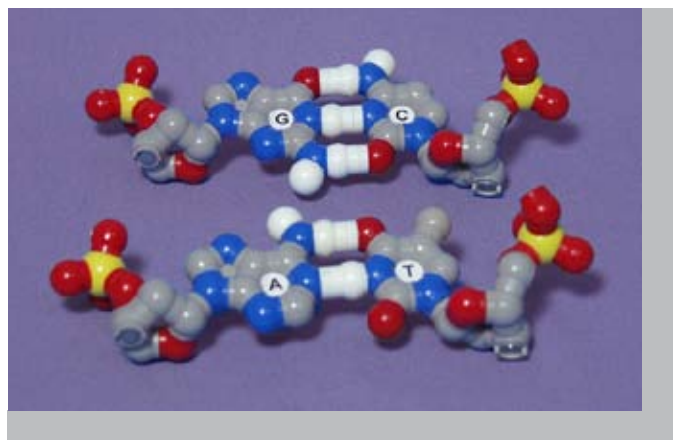
- 1 Adenosine Nucleotides
- 1 Thymine Nucleotides
- 1 Guanine Nucleotides
- 1 Cytosine Nucleotides
- 1 Set of Labels

Assembly Instructions

Nucleotides Assembled

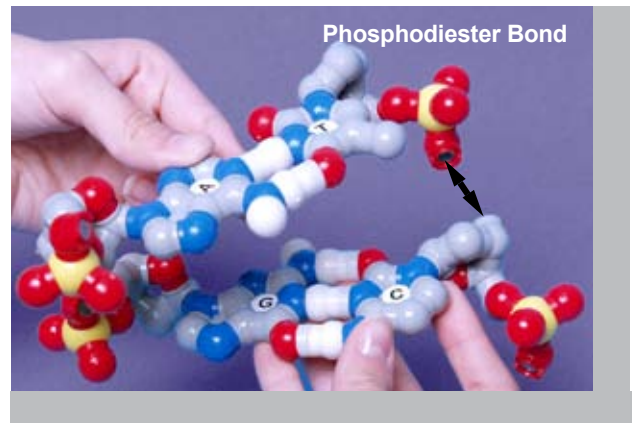
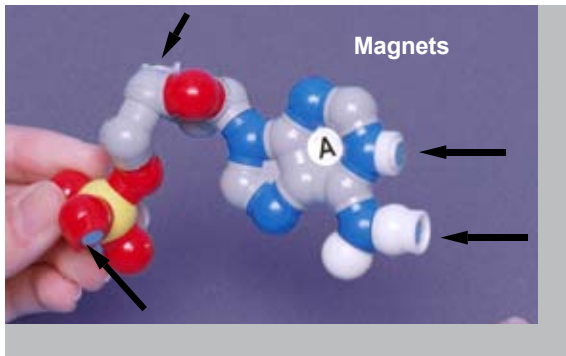
The nucleotides are preassembled.

You have the option of using labeled or unlabeled nucleotides. To label a nucleotide, peel a letter from its protective backing and press it into the depression on a corresponding base. After placing the label on one side, flip the base over and repeat with another label. Use the photo to correctly place the labels on the nucleotides. (Labels only fit inside the larger depression on the Adenosine and Guanine nucleotides.)





Magnets Simulate Bonding



The nucleotide models have magnets embedded in them to simulate the spontaneous bonding that occurs between complementary base pairs (hydrogen bonds) and between the phosphate group of one nucleotide to the deoxyribose of another nucleotide (phosphodiester bonds).

Arrows in the photo above point to the magnetic(s) in each piece.

You can break the hydrogen bonds by pulling apart the G-C and A-T base pairs. When examining the deoxyribose and phosphate groups, you will see the single magnet embedded in the deoxyribose group and one embedded in the phosphate group.



Nucleotides Separate Into Components

Each nucleotide separates into its three components — the nitrogenous base, deoxyribose group and phosphate group. To separate the pieces, pull the three pieces apart as shown in the photos. Be sure to pull the pieces apart with a straight motion.

The attachment posts can break if a twisting or bending motion is used to separate the pieces.

Teacher Notes, Student Handout and other resources at 3dmoleculardesigns.com/resources.php

