

What is some basic information about DNA?

4 nucleotides make Up DNA:

A = adenine

T = thymine

G = guanine

C = cytosine

Nucleotides can be thought of as building blocks. These building blocks can be arranged in sequences. The human genome contains about 3 billion of these building blocks. Some sequences of the building blocks encode genes. Some sequences are related to the regulation of gene expression. Scientists know what only a small fraction of these building blocks do (most of the sequences have no known function!).

A gene is a sequence of DNA nucleotides:

-G-C-A-T-T-C-G-C-C-A-

The building blocks of each gene are unique. This example shows the hypothetical first 10 nucleotides/building blocks of a gene.

Double stranded DNA:

A } pair **G** } pair
T } **C** }

When DNA is not being transcribed, the nucleotides are paired up. A always pairs with T; G always pairs with C.

When they are paired, they are referred to as double stranded (2 strands of DNA together).

-T-A-C-G-
-A-T-G-C-



If you look at “How are protein products made from a gene?”, you can see how transcription and double stranded DNA are displayed in the nucleus of the cell.