

Deoxyribose Nucleic Acid Encyclopedia Article

Deoxyribose Nucleic Acid

The following sections of this BookRags Literature Study Guide is offprint from Gale's For Students Series: Presenting Analysis, Context, and Criticism on Commonly Studied Works: Introduction, Author Biography, Plot Summary, Characters, Themes, Style, Historical Context, Critical Overview, Criticism and Critical Essays, Media Adaptations, Topics for Further Study, Compare & Contrast, What Do I Read Next?, For Further Study, and Sources.

(c)1998-2002; (c)2002 by Gale. Gale is an imprint of The Gale Group, Inc., a division of Thomson Learning, Inc. Gale and Design and Thomson Learning are trademarks used herein under license.

The following sections, if they exist, are offprint from Beacham's Encyclopedia of Popular Fiction: "Social Concerns", "Thematic Overview", "Techniques", "Literary Precedents", "Key Questions", "Related Titles", "Adaptations", "Related Web Sites". (c)1994-2005, by Walton Beacham.

The following sections, if they exist, are offprint from Beacham's Guide to Literature for Young Adults: "About the Author", "Overview", "Setting", "Literary Qualities", "Social Sensitivity", "Topics for Discussion", "Ideas for Reports and Papers". (c)1994-2005, by Walton Beacham.

All other sections in this Literature Study Guide are owned and copyrighted by BookRags, Inc.

Contents

Deoxyribose Nucleic Acid Encyclopedia Article.....	1
Contents.....	2
Deoxyribose Nucleic Acid.....	3

Deoxyribose Nucleic Acid

Deoxyribose **nucleic acid** (DNA) molecules contain genetic information that is the blueprint for life. DNA is made up of long chains of subunits called nucleotides, which are nitrogenous bases attached to ribose sugar molecules. Two of these chains intertwine in the famous double helix structure discovered in 1953 by James Watson and Francis Crick.

The genetic information contained in DNA molecules is in a code spelled out by the linear sequence of nucleotides in each chain. Each group of three nucleotides makes up a codon, a unit resembling a letter in the alphabet. A string of codons effectively spells a word of the genetic message.

This message is expressed when enzymes (cellular proteins) synthesize new proteins using a copy of a short segment of DNA as a template. Each nucleotide codon specifies which amino **acid** subunit is inserted as the protein is formed, thus determining the structure and function of the proteins. Because the chains are very long, a single DNA strand can contain enough information to direct the synthesis of hundreds of different proteins. Since these proteins make up the cell structure and the machinery (enzymes) by which cells carry out the processes of life, such as synthesizing more molecules including more copies of the DNA itself, DNA can be said to be self-replicating. When cells divide, each of the new cells receives a duplicate set of DNA molecules giving them the necessary information to live and reproduce.

See Also

Ribosenucleic Acid