



GENETICS & EVOLUTION



Genetics and Evolution is a six-volume set that explores the principal fields of modern molecular biology from their origins to the most recent discoveries and technological breakthroughs. A century and a half after evolutionary and genetic science began, biology and medicine are coming together to form a powerful new view of the living world that is having a dramatic effect on human health and society. As well as introducing the basic terms and concepts, the set examines the most significant social and ethical issues surrounding current biomedical research and serves as a valuable guide to the world that science is creating.

The Molecules of Life explains the chemistry and physics of organic molecules, which initiate processes within tiny cells that evolve into amazingly complex plants and animals. In addition to the basic concepts needed to understand the field, methods used to explore the structures and behavior of DNA, RNA, and proteins are also discussed. The book also shows how and why scientists study biological molecules, including how they are built, how they interact, and what roles they play in the formation of cells and organisms.

The volume includes information on

- a cell's "architecture"
- communication between and inside cells
- disease and the molecular age
- how cells access and use hereditary information
- the immune system
- microscopy
- the physics and chemistry of creating life
- the structure and function of DNA and RNA

The book contains 40 color photographs and four-color line illustrations, sidebars, a chronology, a glossary, a detailed list of print and Internet resources, and an index. **Genetics and Evolution** is essential for high school students, teachers, and general readers who wish to learn about the "revolution" of evolutionary research and discovery.

GENETICS AND EVOLUTION SET

Developmental Biology

Genetic Engineering

Evolution

Human Genetics

The Future of Genetics

The Molecules of Life

Russ Hodge is a writer and science education expert at the Max Delbrück Center for Molecular Medicine (MDC) in Berlin, Germany, one of the world's leading biology institutes. The author of many popular science books, he has also published hundreds of articles and interviewed such world-renowned scientists as Nobel Prize winners Max Perutz, Roald Hoffmann, Harold Varmus, and Christiane Nüsslein-Volhard.

Cover images, main: Computer-generated illustration of a budding yeast cell (© Russell Kightley/Photo Researchers, Inc.); others (© Shutterstock)

Cover design by: Salvatore Luongo/Takeshi Takahashi

Printed in the United States of America

ISBN 978-0-8160-6680-3



9 780816 066803