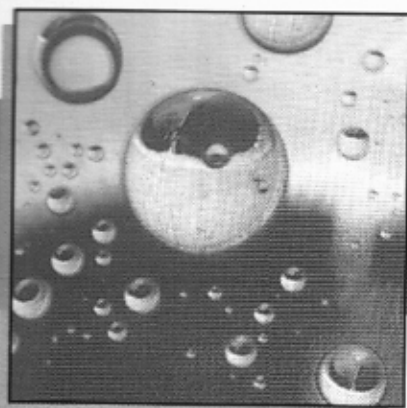




Preface

In keeping with science in general, A- and AS-level Biology syllabuses have undergone radical changes over the past few years. The move towards modular courses and the introduction of a larger number of optional topics has expanded the scope of biological knowledge required from a course textbook. In addition, many students need to fulfil a requirement of their syllabus for an extended practical investigation or a project during their course. All biology syllabuses however have a Core of common topics building on the knowledge and understanding of Science in the National Curriculum. This book gives a clear and comprehensive coverage of these areas and aims to make the difficult transition from Double Science (GCSE) to A/AS-level Biology as easy and rewarding as possible.

This book is intended primarily for students taking A- and AS-level Biology, but in addition, the text will also be valuable to students studying Human and Social Biology, the Scottish Higher Grade examination, GNVQ Science (Advanced) or the International Baccalaureat. Most of the material for these courses is covered by this book.

Detailed analysis of all the major new A- and AS-level Biology syllabuses has been undertaken to ensure that all common compulsory topics are covered. In addition, the popular options such as Biotechnology are included as separate chapters, while others like Health and Disease are integrated into the text throughout.

The style and accessibility of the book, with its many clear diagrams and summary tables have been retained, but the content has been extensively revised with much new work and some rearrangement of existing material to bring it fully in line with the new requirements. Full colour has been used throughout, not only to make the book unusually attractive but also to improve understanding by making the diagrams clearer and access easier.

New features have been developed for the Third Edition. They include Notebooks; short explanatory sections on key underpinning topics of biology and other sciences such as pH and mole calculations. Notebooks are designed to cover basic principles required for the course.

Applications have always been a strong feature of this book. They have been expanded and highlighted in the Third Edition and include numerous topics of applied biology such as pacemakers, gene therapy, biosensors and washing powders as well as health topics like cancer, allergies, Alzheimer's disease and eating disorders.

Project suggestions are provided because most new syllabuses require students to undertake an independent practical investigation on a topic of their choice. The suggestions, included at relevant points in the text, are designed as starting points for enquiry and to stimulate innate curiosity. Did You Know? offers fascinating and often startling facts about the biological world; while introducing a light-hearted note, they also provide worthwhile factual information about the topic being studied.

All nomenclature in this book is consistent with the recommendations made by the Institute of Biology and the Association for Science Education. The sample questions of the Examining Boards at the end of each chapter have been extensively updated with recent examples.

Overall the book is intended to provide a clear, highly readable text that is sufficiently detailed to satisfy the requirements of all major syllabuses but without unnecessary detail which can cloud the underlying issues. Biology is an exciting subject and we hope that this book will provide not only the information needed for examination success but also the stimulus to investigate and to enquire further.

We would like to express our gratitude to Wilbert Garvin for compiling the project suggestions and to Adrian Wheaton, Malcolm Tomlin and all those at Stanley Thornes (Publishers) Ltd without whose patient encouragement and hard-working efficiency the quality of this new edition could not have been achieved.

Glenn and Susan Toole
1995