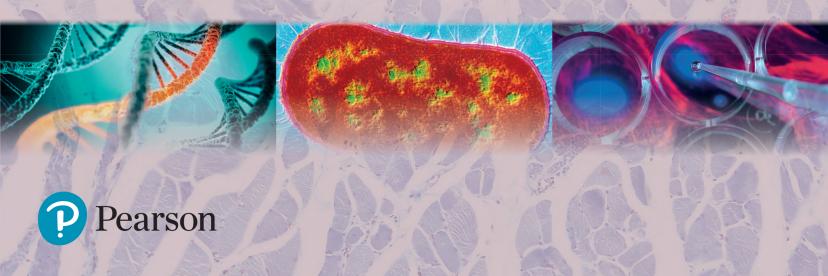
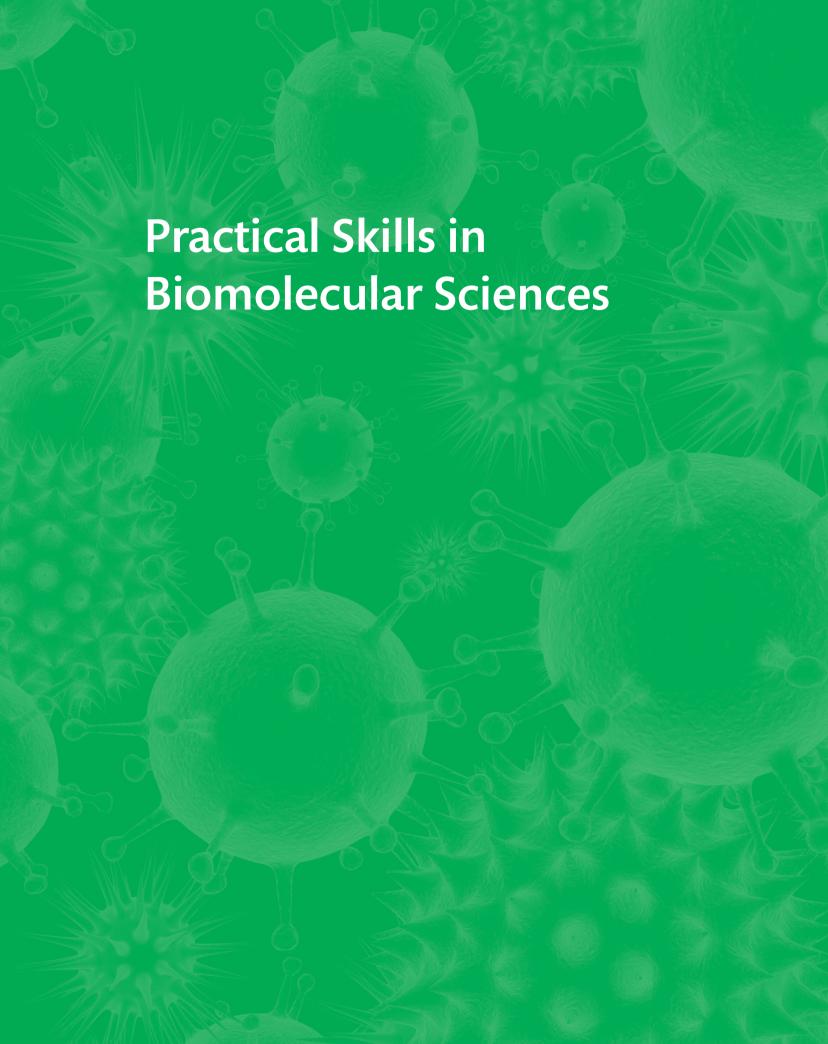


Practical Skills in BIOMOLECULAR SCIENCES

Sixth Edition





Practical Skills in Biomolecular Science

Table of Contents

Front Cover

Half Title

Title Page

Copyright Page

Contents

Preface to the 6th edition

List of abbreviations

Study strategies

- 1. Developing your skills
- 2. Self-management
- 3. Learning effectively
- 4. Making the most of learning resources
- 5. Locating and citing published information
- 6. Evaluating information
- 7. Working with others
- 8. Mapping your personal development

Assessment skills

- 9. Succeeding in assessments
- 10. Scientific writing
- 11. Writing essays
- 12. Reporting practical and project work
- 13. Tackling literature surveys and reviews
- 14. Presenting written assignments
- 15. Preparing a poster
- 16. Giving a spoken presentation
- 17. Revision strategies
- 18. Improving your performance in exams

Fundamental laboratory techniques



Table of Contents

- 19. Preparing for practical work
- 20. Working safely in the lab
- 21. Basic laboratory skills
- 22. Measuring and dispensing liquids
- 23. Preparing solutions principles and practice
- 24. Measuring and maintaining pH
- 25. Understanding microscopy
- 26. Setting up and using a light microscope

The investigative approach

- 27. Making measurements
- 28. Understanding SI units and their use
- 29. Designing experiments
- 30. Understanding bioethics
- 31. Recording data and images
- 32. Tackling project work and placements

Working with microbes, cells and tissues

- 33. Learning sterile technique
- 34. Culturing cells and measuring growth
- 35. Collecting and isolating microbes
- 36. Identifying microbes
- 37. Naming microbes and other organisms
- 38. Working with bacteria
- 39. Working with eukaryotic microbes: fungi and protists
- 40. Working with viruses
- 41. Working with animal and plant tissues and cells
- 42. Homogenising and fractionating cells and tissues

Analytical techniques

- 43. Understanding calibration and quantitative analysis
- 44. Centrifugation techniques
- 45. Measuring light
- 46. Carrying out basic spectroscopy and spectrometry
- 47. Using advanced spectroscopy and spectrometry
- 48. Separating compounds using chromatography



Table of Contents

- 49. Detecting and analysing compounds after chromatography
- 50. Methods of electrophoresis
- 51. Advanced electrophoretic techniques
- 52. Electroanalytical techniques
- 53. Using immunological methods
- 54. Using radioisotopes
- 55. Analysing stable isotopes

Assaying biomolecules and studying metabolism

- 56. Analysing biomolecules
- 57. Assaying amino acids, peptides and proteins
- 58. Assaying lipids
- 59. Assaying carbohydrates
- 60. Assaying nucleic acids and nucleotides
- 61. Protein purification
- 62. Studying enzymes
- 63. Measuring membrane transport
- 64. Quantifying photosynthesis and respiration

Genetics and molecular biology

- 65. Studying Mendelian and population genetics
- 66. Studying bacterial and phage genetics
- 67. Understanding molecular genetics fundamental principles
- 68. Using the polymerase chain reaction in molecular genetics
- 69. Genetic manipulation techniques
- 70. Applying bioinformatics

Analysing and presenting data

- 71. Manipulating and transforming raw data
- 72. Analysing data with spreadsheets
- 73. Summarising data in tables
- 74. Illustrating data in graphs
- 75. Solving numerical problems
- 76. Using descriptive statistics
- 77. Selecting and interpreting statistical tests

Appendix 1



Table of Contents

Publisher's acknowledgements Index Back Cover