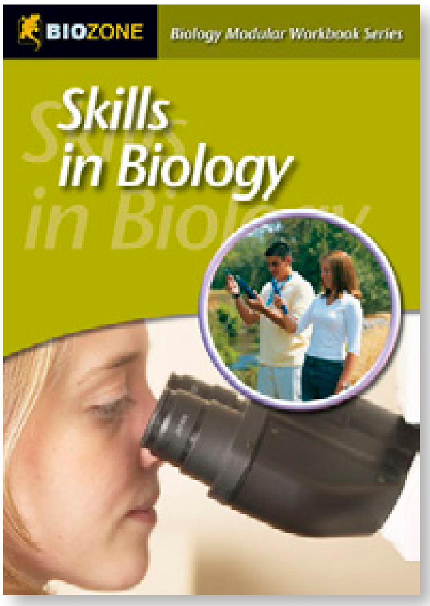
BIOZONE

Fact Sheet

Skills in Biology



Skills in Biology

International Edition

An essential supplement for all biology students, Skills in Biology provides comprehensive guidelines for planning and executing biological investigations in both the laboratory and the field.

Suitability:

- Grades 10-12
- Community College

ISBN: 978-1-877462-14-6 Pages: 124

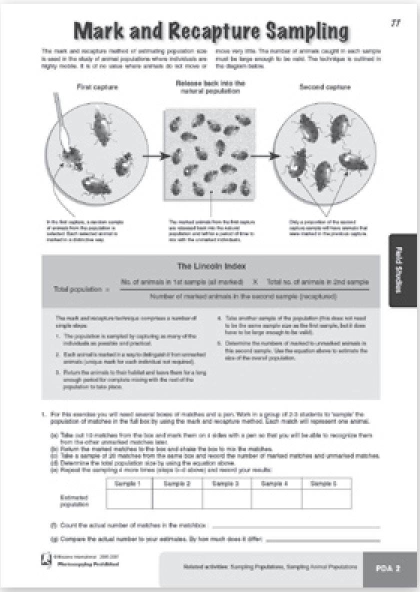
Biozone's unique formula encourages self direction, while dovetailing with traditional resources.

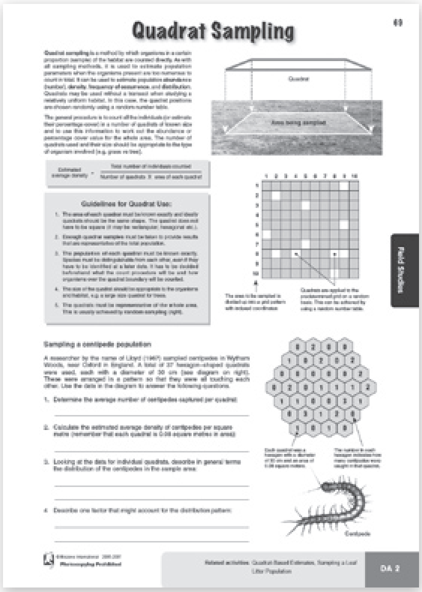
Chapters

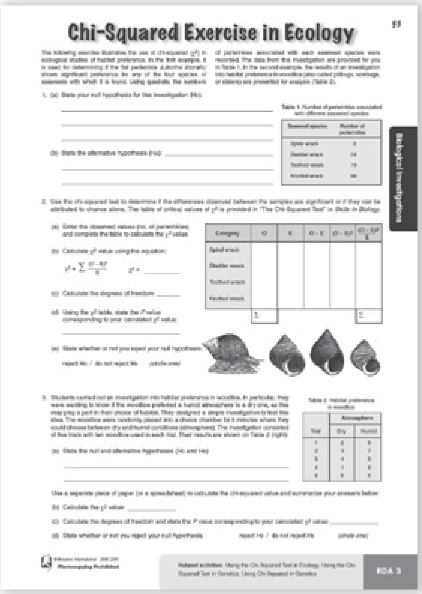
- Biological Investigations
- Field Studies
- Classification of Organisms
- Laboratory Techniques

Features

- **Introduction to the topic:** A concise introduction to the concepts in the activity.
- **Easy to understand diagrams:** Highly visual, clearly annotated diagrams improve the accessibility of information.
- **Consolidation and branching out:** Activities provide information to consolidate basic knowledge, while allowing scope for exploring. Differential instruction becomes easier and students at all levels are encouraged to be 'thinkers'.
- **Write-on format:** Activities provide information to consolidate basic knowledge, while allowing scope for exploring.
- **Tear-out pages:** Each page has a perforation to allow easy removal for marking, or placement in a ring binder.
- **Activity Code:** Each activity is coded to identify the skills required for its completion.







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Content Overview

BIOLOGICAL INVESTIGATIONS

- Terms and Notation
- The Scientific Method
- A Guide to Research Projects
- Choosing Your Topic
- Hypotheses and Predictions
- Planning an Investigation
- Designing Your Experiment
- Recording Results
- Tables and Graphs
- Transforming Raw Data
- Types of Graphs
- Drawing Bar Graphs
- Drawing Histograms
- Drawing Pie Graphs
- Drawing Kite Graphs
- Drawing Scatter Plots
- Drawing Line Graphs
- Interpreting Line Graphs
- Taking the Next Step
- Descriptive Statistics
- The Reliability of the Mean
- Linear Regression
- Non-linear Regression
- The Student's *t* Test
- Student's *t* Test Exercise
- Comparing More Than Two Groups
- Analysis of Variance
- Using the Chi-Squared Test in Ecology
- Chi-squared Exercise in Ecology
- Using the Chi-Squared Test in Genetics
- Chi-Squared Exercise in Genetics
- The Structure of a Report
- Writing the Methods
- Writing Your Results
- Writing Your Discussion
- Report Checklist
- Citing and Listing References

FIELD STUDIES

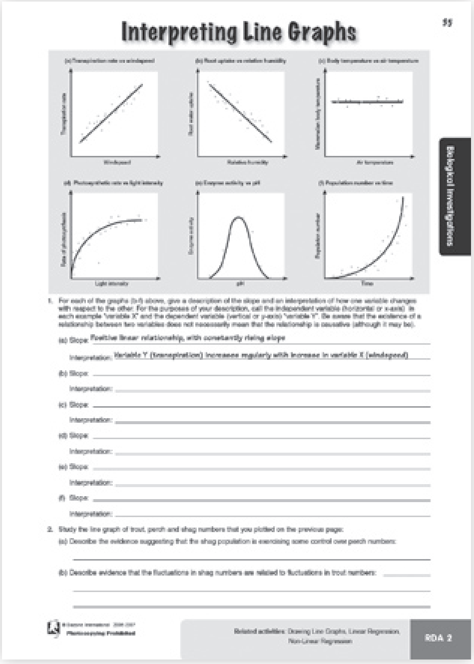
- Sampling Populations
- Designing Your Field Study
- Monitoring Physical Factors
- Quadrat Sampling
- Quadrat-Based Estimates
- Sampling a Leaf Litter Population
- Transect Sampling
- Sampling Animal Populations
- Mark and Recapture Sampling
- Indirect Sampling
- Sampling Using Radio-Tracking

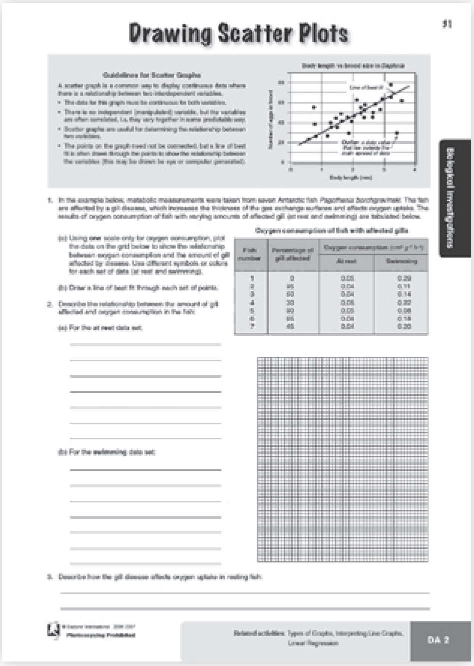
CLASSIFICATION OF ORGANISMS

- The New Tree of Life
- New Classification Schemes
- Features of Taxonomic Groups
- Classification System
- Classification Keys
- Keying Out Plant Species
- Features of the Five Kingdoms
- The Classification of Life
- Features of Animal Taxa
- Features of Fungi and Plants

LABORATORY TECHNIQUES

- Biological Drawings
- Optical Microscopes
- Electron Microscopes
- Interpreting Electron Micrographs
- Identifying Cell Structures
- Biochemical Tests
- Differential Centrifugation
- Gel Electrophoresis
- Analyzing a DNA Sample
- Techniques in Microbial Culture
- Strain Isolation
- Serial Dilution
- Plant Tissue Culture





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