

LIFE AND EARTH SCIENCES



Basic Education

7th
grade

SPECIMEN
غير مخصص للتبيع

Republic of Lebanon

Ministry of Education and Higher Education

LIFE AND EARTH SCIENCES

Basic Education
Grade Seven

Center for Educational Research and Development



National
Textbook

New Curricula



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The translation into English of this book was reviewed and corrected by faculty members at the American University of Beirut.

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Educational Company
for Printing, Publishing and Distribution S.A.R.L.

Acknowledgments

The Center for Educational Research and Development expresses its thanks and appreciation to the:

- Ministry of Tourism.
- Civil Defense office.
- Water Treatment Station, Dbayeh
- Hoayek - Khoury Laboratories
- Apis Lebanon.

for their cooperation in contributing the required pictures, illustrations and documents.

Technical Preparation: Technical Team ■ CERD

Illustrations: Graphics Team ■ CERD

Production and Distribution:  **Educational Company**
for Printing, Publishing and Distribution S.A.R.L.

Printing: Chemaly & Chemaly s.a.l.

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Second Published 2002

9^{ème} Impression 2010

Together We Build Through Education!

The Center for Educational Research and Development (CERD) has embarked on an extensive workshop for assessing and developing the educational framework and curricula which have been placed into effect more than three years ago. With full realization of the fact that the educational cycle must continue normally through its components, and until the development process attains its aspired objectives, we are placing in the hands of students, teachers and directors of public schools, this corrected version of textbooks issued by CERD as part of the National Textbook Series.

This version is an interim stage incorporating the corrected typographical and linguistic errors discovered by CERD specialists as well as teachers and students through their daily dealings with the books. The process of assessment and development of the framework and curricula will take into consideration all the comments that have been made, or will be made, in this regard.

It is expected that once the curricula are developed and aligned with the general and specific objectives set for them, the textbooks will be realigned with the new curricular and framework requirements, including tying the content of a course to the number of teaching hours set for it during the school year, taking into consideration vertical alignment within the same course as well as the horizontal alignment with the rest of the courses.

I take this opportunity to invite all school administrators, teachers and students and all officials concerned in public and private schools alike, to promptly send their comments on these curricula and books as their contribution to enrichment of this momentous national process.

This workshop, which was launched under the kind sponsorship of His Excellency the Minister of Education and Higher Education in implementation of Decree No. 10227 embodying the educational curricula and their objectives, fits in with CERD's proclaimed new motto "Together We Build Through Education".

It is our earnest desire to see this national, all-inclusive workshop attracting the greatest amount of interest and participation to define the safest and soundest educational options that directly affect our children, as we vow to continually modernize education and develop its ways and means to keep abreast of modern developments and progress in science and technology.

Dr. Leila MALEEHA
President CERD

P R E F A C E

The curriculum of the seventh year of the Basic Education Cycle in "Life and Earth Sciences" focuses on the following themes:

- Nutrition
- Reproduction
- Interdependence of living things

This textbook is conceived to put in the hands of the student a tool of work that he can use in the class as a source of documents for learning , and outside the class to carry on complementary work.

Getting informed, reasoning, communicating, thinking critically and adopting the scientific method constitute the principal skills required from the student at the end of learning.

Our keen concern made us adopt a clear and logical presentation that includes:

- * Chapters that are activity-centered.
- * Rich illustrations that can be used as learning support .

A particular attention is paid to environmental and health education, whenever it is possible.

Organization of the textbook

Each chapter includes :

- * An opening page that poses very clearly the problems to be solved .
- * "Activities" that include experiments and / or selected and precised information (graphs, tables of data, drawings, photographs,...) that allow the student to find solution to the posed problems , and a glossary to facilitate the understanding of the text.
- * "Summing up" that represents the main ideas.
- * "Concept mapping" that relates the main concepts of the chapter.
- * " Solved exercise" that guides the student to answer correctly .
- * " Exercises " to test the acquired knowledge.
- * " Supplementary readings" about issues of everyday life.

This textbook conforms with the desire of renovation of the curriculum and respects also its new spirit and trends.

We highly hope that this textbook will gratify many of our colleagues .

Many thanks to all those who helped us.

The authors

First Part

Chapter 1

Feeding behavior of animals

Activities

- 1 Food diets
- 2 Feeding behavior
- 3 Recognition and choice of food
- 4 Capture , harvest and consumption of food
- 5 Digestion of food

Summing up
Concept Mapping
Solved exercise
Exercises

Chapter 2

Nutritive needs of plants

Activities

- 1 Nutritive needs of chlorophyllic plants
- 2 Absorption and translocation of water and mineral salts
- 3 Photosynthesis : production of organic matter
- 4 Nutritive needs of non-chlorophyllic plants

Summing up
Concept Mapping
Solved exercise
Exercises
Supplementary readings

Chapter 3

Respiration of living beings

Activities

- 1 Respiratory movements and circulation of air or water
- 2 Respiratory gaseous exchange
- 3 Life in absence of oxygen
- 4 Respiration in an aerial medium
- 5 Respiration in an aquatic medium

Summing up
Concept Mapping
Solved exercise
Exercises
Supplementary readings

Chapter 4

Relations among the conditions of the environment, activity and functions of nutrition

Activities

- 1 Temperature and activity of an organism
- 2 Temperature and consumption of food and oxygen
- 3 Activity and energy expenditure
- 4 Nutrition and respiration: a vital necessity
- 5 Hibernation of animals
- 6 Active life and slow life in plants

Summing up
Concept Mapping
Solved exercise
Exercises