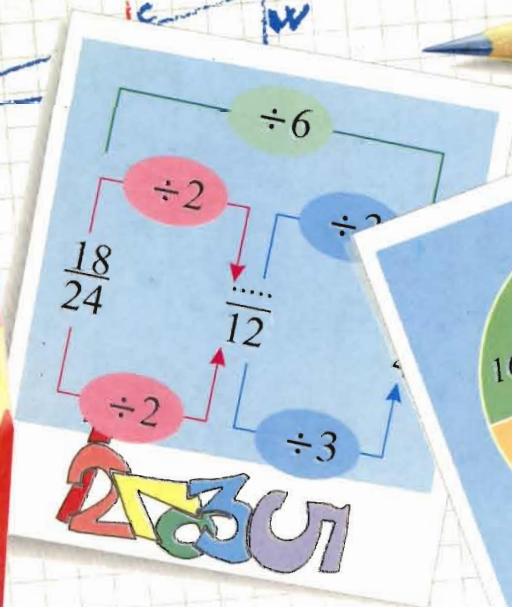
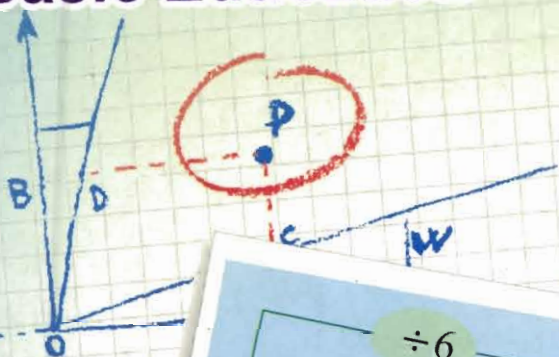


Building up Mathematics

Basic Education

6th
Grade



PECIMEN



National
Textbook

NEW CURRICULA

Educational Center for Research and Development

Republic of Lebanon

Ministry of Education and Higher Education

BUILDING UP MATHEMATICS

Basic Education

Grade Six

Educational Center for Research and Development





National
Textbook

New Curricula



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BUILDING UP MATHEMATICS

Basic Education
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The National Textbook Project

By issuing the textbooks for the third year of each educational cycle, the Educational Center for Research and Development will have completed the third and last installment of books called for by the New Curricula. We are placing these books in the hands of students with the great hope that we are moving, step by step, toward the goal of acquiring sound learning, using sophisticated educational means and up-to-date methodology that encourage and reinforce individual thinking and research, acquisition of skills, development of ethical and national attitudes, the feeling of national belonging as well as the feeling of belonging to humanity at large.

The on-going revolution in information, communication and educational-aids technology has undoubtedly limited the role of the textbook and lowered the rank it used so recently to occupy. However, in our society and in many other societies, the textbook remains the basic means of education, and it is our duty to exert our utmost effort and care to come up with the best product as to form and content. Yet we should not lose sight of the fact that the textbook is not sufficient by itself but should rather be used as a stepping stone to access other sources of information. What is important is to keep a clear vision and maintain the right course toward our objective. The means should not turn into the end and the student should always remain the focus of the learning/teaching process.

No one ignores or denies the fact that textbook writing requires very high academic and educational qualifications and very wide field experience. The authors committees undeniably possess such qualities. Yet the textbooks of the last two years contained some negative aspects. Such is the nature of human work, no matter how good the intentions or how great the effort extended. Here constructive criticism constitutes a real contribution to raising the standard of authorship, minimizing errors and filling gaps. We say that, with all due appreciation and respect to all those who have contributed to the success of this project.

The Educational Center for Research and Development is embarking this year on a process of evaluating the New Curricula and related textbooks, teacher training courses and student achievement. This is a natural and necessary step now that the new system has been put into effect. This process aims at identifying the curricular objectives that have been achieved as well as those that have not been achieved, with a view to proceeding with the positive aspects and correcting the negative ones.

As part of this correction process, we plan to review the versions that have been issued in order to secure good textbooks for our students, who always deserve the best.

March 13, 2000

**President, Educational Center for
Research and Development
Nemer FRAYHA**

Introduction

This book was designed to meet the needs of the sixth grade in basic education. Its purpose is to respond to the spirit of the new curriculum prescribed by the decree No. 10227 of 8 March 1997, and to complement the series entitled "Building up Mathematics" for the second stage in basic education.

Deriving its goals from educational research work based on formative and mathematical epistemology, the curriculum requires a particular teaching method that develops in the students a sense of initiative and freedom.

The method challenges the students with actual problems taken from real life and the environment urging them to conjecture, experiment and verify different solutions so as to gradually arrive at approaches that will later enable them to build their own models, as personal early initiatives of genuine mathematical models.

The activities presented in the various chapters constitute actual challenges to be met by the students. Students should address those challenges with independence and a sense of freedom in dealing with various data and premises so as to develop their skills and their ability to express themselves and to communicate.

To achieve the objectives set out at the beginning of each chapter, it is hoped that those who will use book as a teaching tool will observe to the following:

1. The order and sequence of the lessons;
2. The methodological structure of each lesson... "Getting familiar with my book".
3. The guidelines presented in the Teacher's manual.

Critical comments, inquiries and suggestions by users of the book are welcome and will be given the utmost attention.

The authors

USING THIS BOOK

A) To benefit from this book, you should:

- 1- Know how it is structured (succession of paragraphs).
- 2- Understand the role of each paragraph.
- 3- Complete the task set for each paragraph before moving to the next.

B) Structure of each chapter

Corresponding Tasks and Roles



Activities

Activities:

These are real and simple work situations that allow the learner to invest his knowledge in a new search while giving him a better grasp of the subject of the chapter. Failing to participate in this activity would be similar to missing the entire lesson.



Text

Text:

This is the theoretical part that:

- is derived from the situation treated in *Activities*.
- makes possible the solution of all similar situations.
- constitutes the mathematical core of the chapter.



Focus

Focus:

This part summarizes the ideas and skills presented in the Text.



Exercises

Exercises

These are designed for training in various situations, numerically or formally, to handle the new ideas of the chapter, to generalize them, and to become familiar with all sorts of relevant questions.



Self-evaluation

Self-evaluation:

Here the student can test his newly acquired knowledge.



Problems

Problems:

They re-examine the studied concepts along with other knowledge. This helps the student balance various types of learning.



Just for fun

Just for Fun:

These are thinking games whereby the student thinks freely as he enjoys the game. It does not really matter whether he finds the solution or not.



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