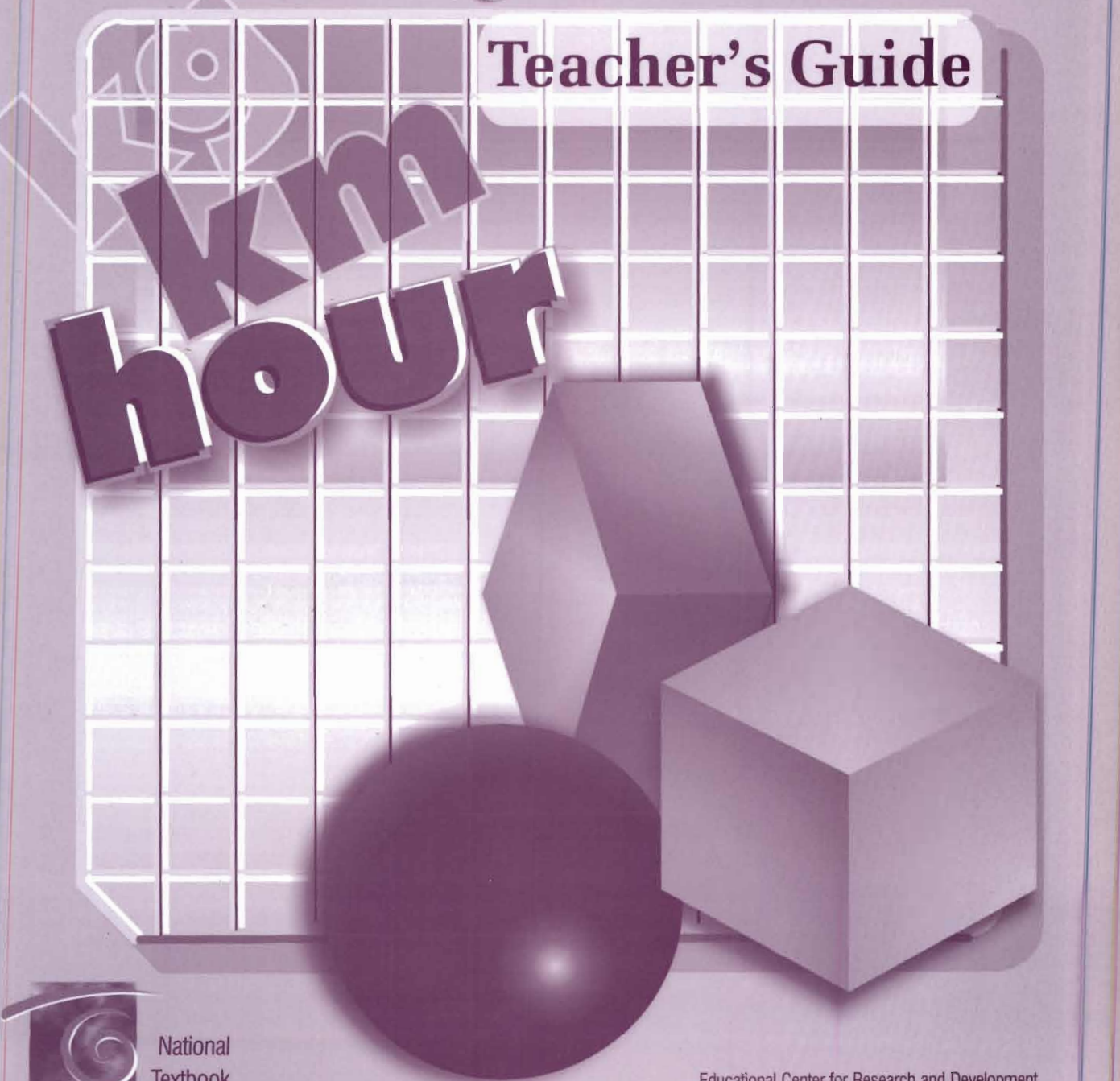
Building up Mathematics

Grade 3 - Basic Education

Teacher's Guide



National Textbook

Educational Center for Research and Development

New Curricula

Republic of Lebanon
Ministry of National Education, Youth and Sports

BUILDING UP MATHEMATICS

Teacher's Guide

Basic Education
Grade Three

Center for Educational Research and Development

National Textbook

New Curricula

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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

PREFACE

"Building up Mathematics" - Grade Three, Basic Education - is designed according to the requirements of the new curriculum of Mathematics. It consists of a Student's Book and a Pedagogical Guide.

Four main topics are treated in the Student's Book referenced by a color code:

- Numbers and calculations
- Geometry
- Measurement
- Problem solving

Every concept is introduced by an activity that places the student at the heart of the learning process and confronts him with a problem-solving situation where his acquired knowledge is insufficient. This forces him to use what knowledge is available to him in order to discover the right tool for solving the problem.

In continuity with the acquired knowledge from Grade Two:

The numerical progression is organized around counting the calculation of objects, calculation techniques, and learning strategies of "mental calculation."

The geometrical activities' goal is to teach the student how to locate in space and on a grid and to develop skills in the following areas: drawing using a ruler, coloring, cutting, and recognizing shapes.

Finally, in the "Measurement" section, the objective for this year is to initiate the child into the measurement of length and mass.

Since problem solving occupies an important place in the build-up of knowledge, we have made a distinction between the following:

- problems intended for learning, consolidating, and developing a concept
- research situations

We hope that the "Evaluation" rubric will play a formative role through its exercises, which are designed to verify the learning of the required skills and to detect the errors to rectify them through appropriate strategies.

We hope that "Building Up Mathematics" will be an effective tool that will guide the student, step by step, into the world of numbers and geometric shapes and lead him to discover the mathematical universe.

The authors

USING THE STUDENT'S BOOK

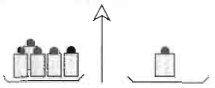
41

Lesson number

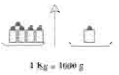
41 Measuring Masses

Measuring Masses

Lesson title



1 Kg = 1000 g



Box illustrating one or more activities done in class depicted and commented upon in the Pedagogical Guide.

1 Complete by using the appropriate unit: g or kg

350 1 20 3 2

2 Circle the appropriate mass

10 g	20 g	30 g	40 g
100 g	200 g	300 g	400 g
1 kg	2 kg	3 kg	4 kg

3 Find the weight of each object

1

Exercise Number

Exercise where the instructions are given by the teacher.

90

Evaluation rubric

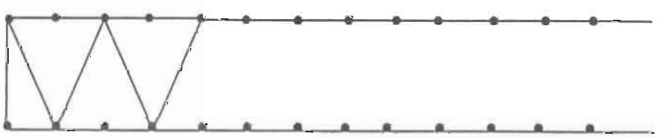
Trace in red the midpoint of each segment limited by the green lines

90

Page number

Game or research box

Continue and color



Color of discussed area

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