

# MATH-MAGIC

Book 2

Textbook in Mathematics for Class II



0219



एन सी ई आर टी  
NCERT

राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद्  
NATIONAL COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING

ISBN 81-7450-679-9

**First Edition**

February 2007 Phalgunā 1928

**Reprinted**

November 2007 Kartika 1929  
January 2009 Magha 1930  
November 2009 Kartika 1931  
January 2012 Magha 1933  
January 2013 Pausa 1934  
November 2013 Kartika 1935  
November 2014 Agrahayana 1936  
November 2017 Agrahayana 1939  
December 2018 Agrahayana 1940  
September 2019 Bhādrapada 1941

**PD 440T RPS**

© **National Council of Educational  
Research and Training, 2007**

₹ 65.00

Printed on 80 GSM paper with NCERT  
watermark

Published at the Publication Division by  
the Secretary, National Council of  
Educational Research and Training,  
Sri Aurobindo Marg, New Delhi 110 016  
and printed at Dewan Print House N-26,  
Sector-2, DSIIDC Bawana Industrial  
Area, Delhi - 110 039

**ALL RIGHTS RESERVED**

- No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without the prior permission of the publisher.
- This book is sold subject to the condition that it shall not, by way of trade, be lent, re-sold, hired out or otherwise disposed of without the publisher's consent, in any form of binding or cover other than that in which it is published.
- The correct price of this publication is the price printed on this page. Any revised price indicated by a rubber stamp or by a sticker or by any other means is incorrect and should be unacceptable.

**OFFICES OF THE PUBLICATION  
DIVISION, NCERT**

NCERT Campus  
Sri Aurobindo Marg  
New Delhi 110 016

Phone : 011-26562708

108, 100 Feet Road  
Hosdakere Halli Extension  
Banashankari III Stage  
Bengaluru 560 085

Phone : 080-26725740

Navjivan Trust Building  
P.O.Navjivan  
Ahmedabad 380 014

Phone : 079-27541446

CWC Campus  
Opp. Dhankal Bus Stop  
Panihati  
Kolkata 700 114

Phone : 033-25530454

CWC Complex  
Maligaon  
Guwahati 781 021

Phone : 0361-2674869

**Publication Team**

Head, Publication Division : *M. Siraj Anwar*

Chief Editor : *Shveta Uppal*

Chief Production Officer : *Arun Chitkara*

Chief Business Manager : *Bibash Kumar Das*

Editor : *Bijnan Sutar*

Production Assistant : *Prakash Veer Singh*

## FOREWORD

The National Curriculum Framework (NCF), 2005, recommends that children's life at school must be linked to their life outside the school. This principle marks a departure from the legacy of bookish learning which continues to shape our system and causes a gap between the school, home and community. The syllabi and textbooks developed on the basis of NCF signify an attempt to implement this basic idea. They also attempt to discourage rote learning and the maintenance of sharp boundaries between different subject areas. We hope these measures will take us significantly further in the direction of a child-centred system of education outlined in the National Policy on Education (1986).

The success of this effort depends on the steps that school principals and teachers will take to encourage children to reflect on their own learning and to pursue imaginative activities and questions. We must recognise that given space, time and freedom, children generate new knowledge by engaging with the information passed on to them by adults. Treating the prescribed textbook as the sole basis of examination is one of the key reasons why other resources and sites of learning are ignored. Inculcating creativity and initiative is possible if we perceive and treat children as participants in learning, not as receivers of a fixed body of knowledge.

These aims imply considerable change in school routines and mode of functioning. Flexibility in the daily time-table is as necessary as rigour in implementing the annual calendar so that the required number of teaching days are actually devoted to teaching. The methods used for teaching and evaluation will also determine how effective this textbook proves for making children's life at school a happy experience, rather than a source of stress or boredom. Syllabus designers have tried to address the problem of curricular burden by restructuring and reorienting knowledge at different stages with greater consideration for child psychology and the time available for teaching. The textbook attempts to enhance this endeavour by giving higher priority and space to opportunities for contemplation and wondering, discussion in small groups, and activities requiring hands-on experience.

National Council of Educational Research and Training (NCERT) appreciates the hard work done by the Textbook Development Committee responsible for this book. We wish to thank the Chairperson of the Advisory Committee, Professor Anita Rampal and the Chief Advisor for this book, Professor Amitabha Mukherjee for guiding the work of this committee. Several teachers contributed to the development of this textbook; we are grateful to their principals for making this possible. We are indebted to the institutions and organisations which have generously permitted us to draw upon their resources, material and personnel. We are especially grateful to the members of the National Monitoring Committee, appointed by the Department of Secondary and Higher Education, Ministry of Human Resource Development under the Chairpersonship of Professor Mrinal Miri and Professor G.P. Deshpande, for their valuable time and contribution. As an organisation committed to the systemic reform and continuous improvement in the quality of its products, NCERT welcomes comments and suggestions which will enable us to undertake further revision and refinement.

New Delhi  
20 November 2006

*Director*  
National Council of Educational  
Research and Training

© NCERT  
not to be republished



## TEXTBOOK DEVELOPMENT COMMITTEE

### CHAIRPERSON, ADVISORY COMMITTEE FOR TEXTBOOKS AT THE PRIMARY LEVEL

Anita Rampal, *Professor*, Department of Education, Delhi University, Delhi

### CHIEF ADVISOR

Amitabha Mukherjee, *Director*, Centre for Science Education and Communication (CSEC), Delhi University, Delhi

### MEMBERS

Anita Rampal, *Professor*, Department of Education, Delhi University, Delhi

Asha Kala, *Primary Teacher*, MCD School, Krishi Vihar, G.K. Part I, New Delhi

Asmita Varma, *Primary Teacher*, Navyug School, Lodhi Road, New Delhi

Bhavna, *Lecturer*, DEE, Gargi College, New Delhi

Dharam Parkash, *Professor*, CIET, NCERT, New Delhi

Hema Batra, *Primary Teacher*, CRPF Public School, Rohini, Delhi

Jyoti Sethi, *Primary Teacher*, The Srijan School, Model Town, Delhi

Kanika Sharma, *Primary Teacher*, Kulachi Hansraj Model School, Ashok Vihar, Delhi

Prakasan V.K., *Lecturer*, DIET, Malappuram, Tirur, Kerala

Preeti Chadha Sadh, *Primary Teacher*, Basic School, CIE, Delhi University, Delhi

Suneeta Mishra, *Primary Teacher*, N.P. Primary School, Sarojini Nagar, New Delhi

### MEMBER-COORDINATOR

Inder Kumar Bansal, *Professor*, DEE, NCERT, New Delhi

### ILLUSTRATIONS AND DESIGN TEAM

Srivi Kalyan, Harvard

Sougata Guha, *The Srijan School*, Model Town, Delhi

S. Nivedita, Chennai

Anita Varma, Bangkok

Sujasha Dasgupta, Gurgaon

Arup Gupta, New Delhi

Rajiv Gautam, New Delhi

**Cover Design:** Srivi Kalyan





## ACKNOWLEDGEMENTS

National Council of Educational Research and Training (NCERT) thanks the following persons and institutions for their contribution towards this textbook. Special thanks are due to the Centre for Science Education and Communication (CSEC), Delhi University, for providing academic support and hosting all the textbook development workshops. The teams were fully supported by the staff and put in tremendous effort through long working hours even on holidays.

The Council gratefully acknowledges the contributions of Sandeep Mishra for the voluntary technical support and of Sadiq Saeed, *DTP Operator*; Pratul Kumar Vasistha, *Copy Editor*; Binod Kumar Jena, *Proof Reader* and Shakamber Dutt, *Computer Station Incharge*, in shaping this book. This book has drawn upon ideas from existing materials, such as Worksheets for Class II (School Mathematics Project, CSEC) and Mathematics: A Textbook for Class II (SCERT, Delhi).

The Council also acknowledges the following teachers—Indira Ramesh, Sandhya Kumar, P.K. Abdul Lathif and Cheggareddy F.C.—for participating in discussions and some book development workshops. The support offered by K.K. Vashishtha, *Professor and Head*, Department of Elementary Education, NCERT is also gratefully acknowledged.



## MATH-MAGIC 2

What is inside this book?

- |                                 |     |
|---------------------------------|-----|
| 1. What is Long, What is Round? | 1   |
| 2. Counting in Groups           | 9   |
| 3. How Much Can You Carry?      | 18  |
| 4. Counting in Tens             | 24  |
| 5. Patterns                     | 30  |
| 6. Footprints                   | 39  |
| 7. Jugs and Mugs                | 47  |
| 8. Tens and Ones                | 56  |
| 9. My Funday                    | 66  |
| 10. Add our Points              | 76  |
| 11. Lines and Lines             | 84  |
| 12. Give and Take               | 90  |
| 13. The Longest Step            | 104 |
| 14. Birds Come, Birds Go        | 111 |
| 15. How Many Ponytails?         | 124 |

## A Page to Cut Out

### Your Game Board



91	92	93	94	95	96	97	98	99	100	
81	82	83	84	85	86	87	88	89	90	
71	72	73	74	75	76	77	78	79	80	
61	62	63	64	65	66	67	68	69	70	
51	52	53	54	55	56	57	58	59	60	
41	42	43	44	45	46	47	48	49	50	
31	32	33	34	35	36	37	38	39	40	
21	22	23	24	25	26	27	28	29	30	
11	12	13	14	15	16	17	18	19	20	
Start	1	2	3	4	5	6	7	8	9	10

Use this board to play games like those given on page 79 and page 83. You can also make your own games by changing the rules.