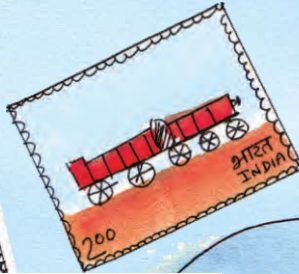


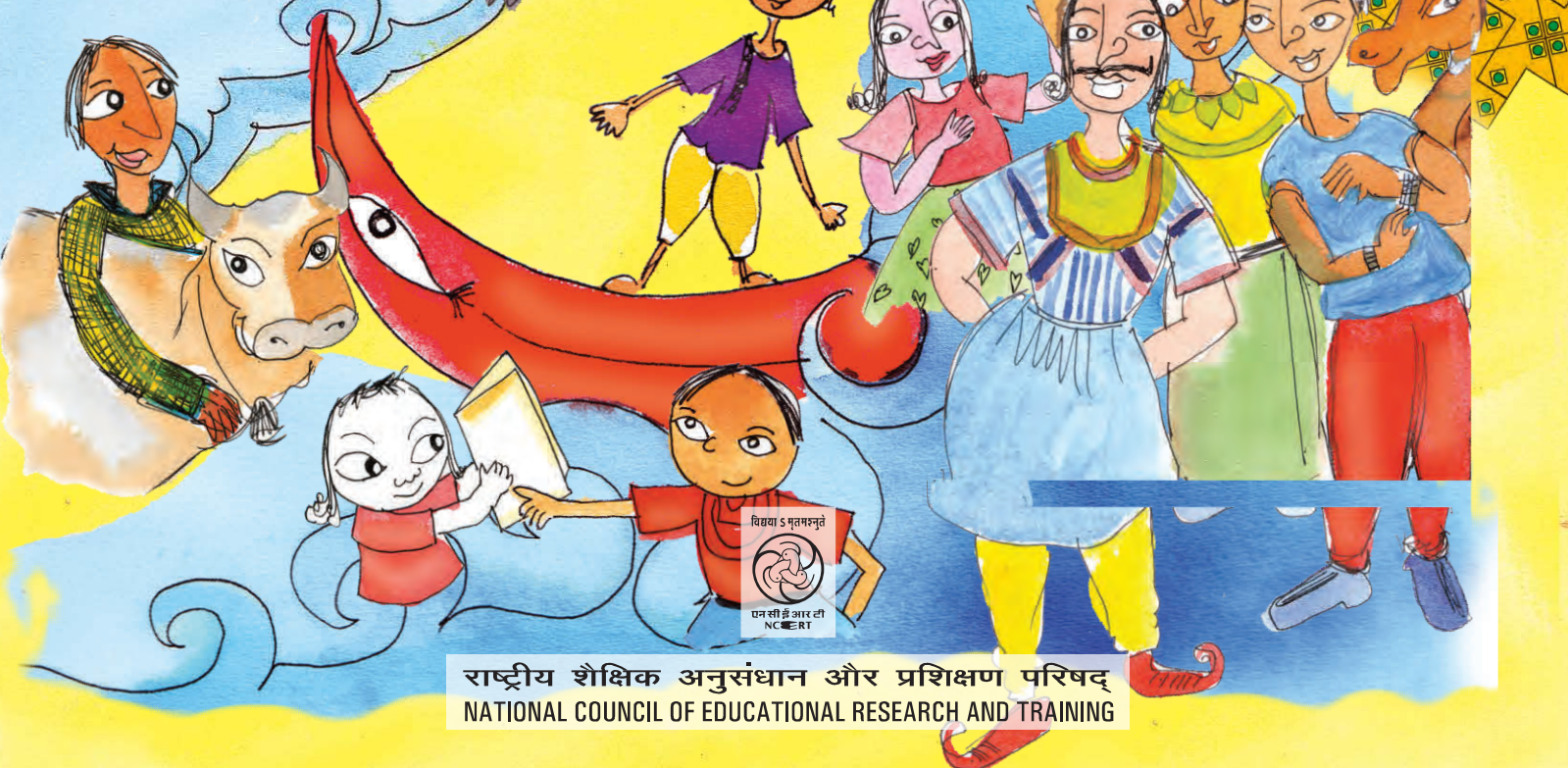
MATH - MAGIC

Book 5

Textbook in Mathematics for Class V



0527



विद्यया ऽ मृतमश्नुते



एन सी ई आर टी
NCERT

राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद्
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**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
Bangalore 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 : *Anup Kumar Rajput*
Division

Chief Editor : *Shveta Uppal*

Chief Production : *Arun Chitkara*
Officer

Chief Business : *Vipin Dewan*
Manager (In charge)

Editor : *Bijnan Sutar*

Production Assistant : *Sunil Kumar*

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
30 November 2007

Director
National Council of Educational
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NBCampus



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

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

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

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

Jyoti Sethi, *Primary Teacher*, Sarvodaya Kanya Vidyalaya, Ashok Vihar, Phase II, 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, New Delhi

Nancy Raj, Chennai

Anita Varma, Bangkok

Taposhi Ghoshal, New Delhi

Sougata Guha, The Srijan School, Model Town, Delhi

Cover Design: Srivi Kalyan

Layout and design support

Anita Rampal, Sadiq Saeed



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The Council gratefully acknowledges the contributions of Sadiq Saeed (*DTP Operator*), Inderjeet Jairath (*Proof Reader*) and Shakamber Dutt (*Computer Station Incharge*) in shaping this book.

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The following are applicable to all the maps of India used in this book

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1. The responsibility for the correctness of internal details rests with the publisher.
2. The territorial waters of India extend into the sea to a distance of twelve nautical miles measured from the appropriate base line.
3. The administrative headquarters of Chandigarh, Haryana and Punjab are at Chandigarh.
4. The interstate boundaries amongst Arunachal Pradesh, Assam and Meghalaya shown on this map are as interpreted from the "North-Eastern Areas (Reorganisation) Act, 1971," but have yet to be verified.
5. The external boundaries and coastlines of India agree with the Record/Master Copy certified by Survey of India.
6. The state boundaries between Uttarakhand & Uttar Pradesh, Bihar & Jharkhand and Chhattisgarh & Madhya Pradesh have not been verified by the Governments concerned.
7. The spellings of names in this map, have been taken from various sources.





MATH-MAGIC

What is inside this book?

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| 2. Shapes and Angles | 16 |
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Constitution of India

Part IV A (Article 51 A)

Fundamental Duties

It shall be the duty of every citizen of India —

- (a) to abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem;
- (b) to cherish and follow the noble ideals which inspired our national struggle for freedom;
- (c) to uphold and protect the sovereignty, unity and integrity of India;
- (d) to defend the country and render national service when called upon to do so;
- (e) to promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities; to renounce practices derogatory to the dignity of women;
- (f) to value and preserve the rich heritage of our composite culture;
- (g) to protect and improve the natural environment including forests, lakes, rivers, wildlife and to have compassion for living creatures;
- (h) to develop the scientific temper, humanism and the spirit of inquiry and reform;
- (i) to safeguard public property and to abjure violence;
- (j) to strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavour and achievement;
- * (k) who is a parent or guardian, to provide opportunities for education to his child or, as the case may be, ward between the age of six and fourteen years.

Note: The Article 51A containing Fundamental Duties was inserted by the Constitution (42nd Amendment) Act, 1976 (with effect from 3 January 1977).

* (k) was inserted by the Constitution (86th Amendment) Act, 2002 (with effect from 1 April 2010).

1

The Fish Tale



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*Deep under the sea
See the lovely coloured fish
Swimming peacefully*

This special poem in three lines is called a Haiku. Such poems about nature are popular in Japan. Here is another Haiku—

*The lake, calm, smooth, still
A fish jumps up and returns
Ripples shake the lake*

Do you know any poems about fish?

Here are some drawings made by children.

When you think of fishes what shapes come to your mind?

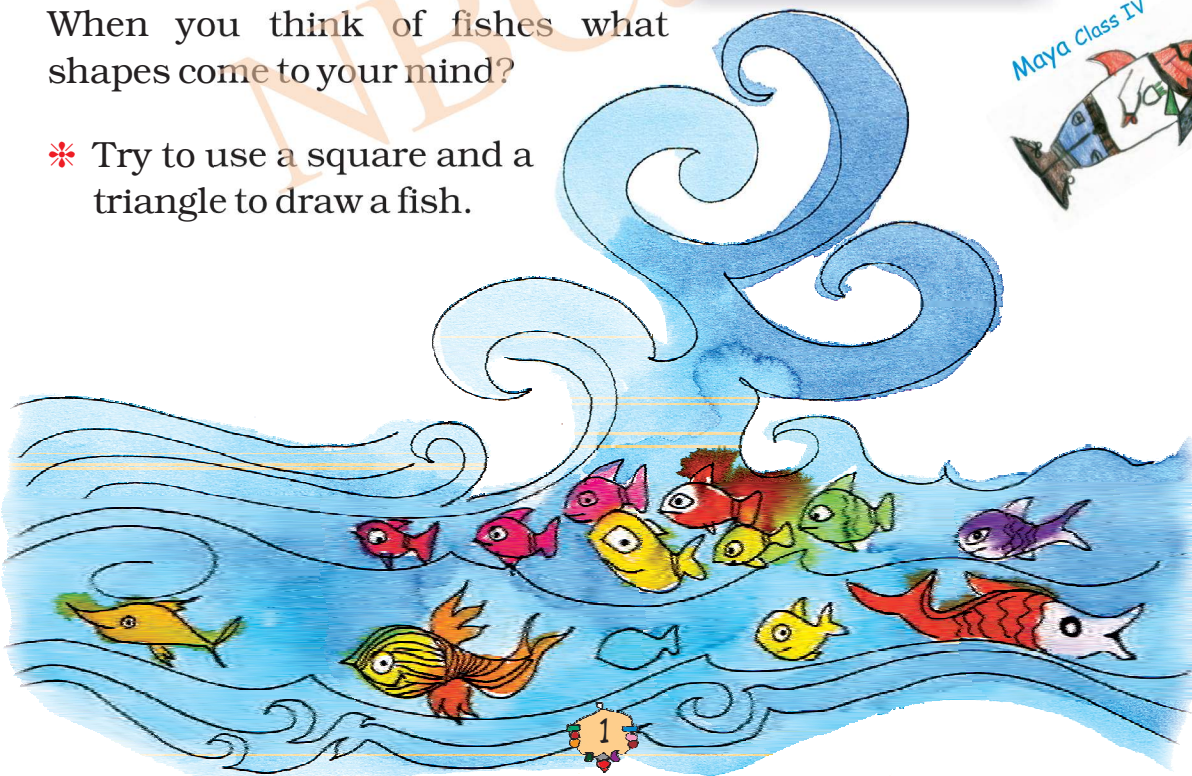
* Try to use a square and a triangle to draw a fish.



Navyata Class I



Maya Class IV



Look for fish designs around you — on cloth, in paintings, on mats, etc.

'Meen' means a fish and 'Meenakshi' is a girl whose eyes look like a fish. Can you think of someone who has such eyes?

* Draw a face with 'fish eyes'.

Fishes can have very different sizes. The smallest fish is about 1 cm long. How long is the biggest fish you can imagine? _____

* How many times longer is your big fish than the smallest fish?

The biggest fish is the **whale shark**. It is actually not a whale but



is a big, big fish. Whales are different from fish. Whales breathe like we do, through their noses. But fish have no noses and they take in water, not air. Whales give birth to babies, but fish lay eggs. The whale shark fish looks big and dangerous, but is quite harmless. It does not attack humans.

One whale shark was as long as 18 m. Just think how long that is – almost 12 children of your size standing one on top of the other! And guess what it weighed? Well, much, much more than what 12 of you together weigh! Its weight was about 16000 kg!

