

3D Magic

Dr. D. V. Navathe



This unique book welcomes persons of all ages. Geometry here becomes a dear friend guiding us in turning the simple and proportionate figures on plain paper into graceful 3D models.

The book gives procedures of making 40 such models with their 2 D figures on paper. The instructions are in English. They include choosing the size and quality of paper, other preparations, volume of the model, difficulty level, time requirement etc. This is a special feature of the book. This book is also published in Marathi by the name, 'विमितीची क्रिया'.

A curriculum of 3D models was developed in Jnana Prabodhini's educational setup. Based on this experience we affirm that this activity will challenge your brain and hands at the same time. It will also enhance the precious abilities like concentration, perseverance, sense of beauty, creativity, three dimensional thinking, quality work and precision.

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Jnana Prabodhini
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3 D Magic

(40 Geometrical Models)

Author

Dr. D. V. Navathe

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3 D Magic

(Diagrams & method of making 40 Geometrical Models)

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Preface

This book is the last chapter in the educational career of late Dr. D. V. Navathe. He had an inexhaustible source of energy in him. Starting as a teacher in 1937 in Gujarat he moved all over the world performing various roles. From Gujarat he came to Pune and then went to London, Narayangaon, Delhi, Nairobi and then again came to Pune. In London he was a researcher; in Delhi and Nairobi he was an educational administrator, in Pune he was a teacher and advisor. While working as an advisor he also started teaching model making.

I remember having discussions with Dr. Navathe about the use of paper models of regular geometrical solids. This was sometime in 1992. We were discussing how to propagate the project method being used in Jnana Prabodhini Prashala. We wanted a set of tasks which could be completed in specific time, which could be planned in advance, which would give lasting learning experience, which could be done by students on their own and which would demand perfection. Two tasks came to our mind, one involved the use of laboratory and the other was making paper models. Dr. Navathe made the second idea his own mission.

He said that paper model making was a transferable learning experience. It involved visualisation of three dimensional objects, developing the surface of those object in two dimensions, visualising steps of cutting and folding the developed surface on paper and reproducing the concrete shape which was only seen by the mind's eye. He said that this series of action would meet the demands of the required set of tasks.

In a graded syllabus of projects, Dr. Navathe said that paper model making could be a step between collection type of projects and making schematic or working models of instruments and systems. During the last 7/8 years, he devoted his maximum energy in developing the syllabus in teaching it and in developing new

trainers for this activity of model making.

Many who observed his involvement in the subject when he was in his 80's were amazed by it. I hope that the readers and users of this book will be able to get a feel of some of this involvement. This book can be used for teaching geometry, to give practice in accuracy and diligence and to introduce the project method of learning.

Dr. Girish S. Bapat

Director, Jnana Prabodhini

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