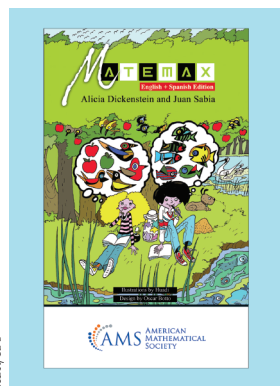




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MBK/136

Matemax

By Alicia Dickenstein and Juan Sabia

Matemax by Dickenstein and Sabia is a book of mathematical problems organized around real life and relatable occurrences like family vacations and sports events. The book was originally published in Argentina as a textbook for middle school students that emphasizes the utility and day to day relevance of mathe-

matics to children and young teens.

In this current publication, the authors have added English translations of each page, arranged so that the corresponding Spanish and English text can be viewed simultaneously on facing pages. The authors have also reworked and updated many of the chapters to make them more current and to include a variety of settings in English and Spanish speaking countries.

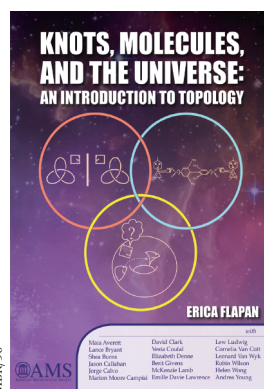
The reason for publishing the book in a bilingual form is two-fold. Children who move to a new country in the middle of their K–8 schooling can face difficulties in simultaneously integrating themselves into a new school system and absorbing a new language and culture. For these students, the book can help bring a sense of commonality and connection between the world that they knew and the one in which they currently live. At the same time, having such books available for English speaking students who have had little exposure to other countries can also have a valuable eye-opening effect.

Matemax, a charming cartoon figure based on the vessel common in Argentina for drinking Yerba Mate tea, is a helpful guide throughout the book giving useful hints and facts along the way. In this bilingual edition, *Matemax*'s comments include information about things like metric conversions, time zones, and names for popular sports in one locality that may be unfamiliar in another. Though organized around scenarios where math can be used rather than on a sequential presentation of mathematical tools

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and techniques, the book reflects the authors' interest in motivating students to develop problem-solving strategies that include both abstract thinking and methods for calculations. These important aspects of the book are highlighted in an accompanying teacher's guide.

For its pedagogical value and for the role it can play in fostering curiosity and inclusivity, *Matemax* is highly recommended both as a textbook and for self-study.



MBK/96

Knots, Molecules, and the Universe: An Introduction to Topology

By Erica Flapan, et al.

This undergraduate textbook in topology eschews the usual starting point of point-set topology and instead presents the subject as a way to articulate phenomena that we can see and imagine in the world around us, and, by doing so, to build concrete computational techniques with highly useful applications in a variety of fields.

This timely book brings together the topics and expository innovations in the works of Jeff Weeks (*Shape of Space*), Colin Adams (*The Knot Book*), and Erica Flapan (*When Topology Meets Chemistry*) and arranges them in a coherent narrative. In Part 1, students learn how to visualize and build spaces in a natural way—e.g., from the interval, to the square, to the torus—using intuitive and commonly used techniques like “gluing” and “thickening.” Similarly, geometry is explained not through Riemannian metrics, but through the notion of “straightest” paths (or geodesics). Part 2 of the book develops knot theory, with a focus on topological and geometric invariants and how to compute them. Part 3 finishes the book with applications of topology and knot theory to chemistry and the structure of molecules, DNA, and proteins.

The result is an accessible starting point for undergraduates interested in seeing how topology is done in practice by both applied and pure mathematicians.