

The Discrete Reviewer

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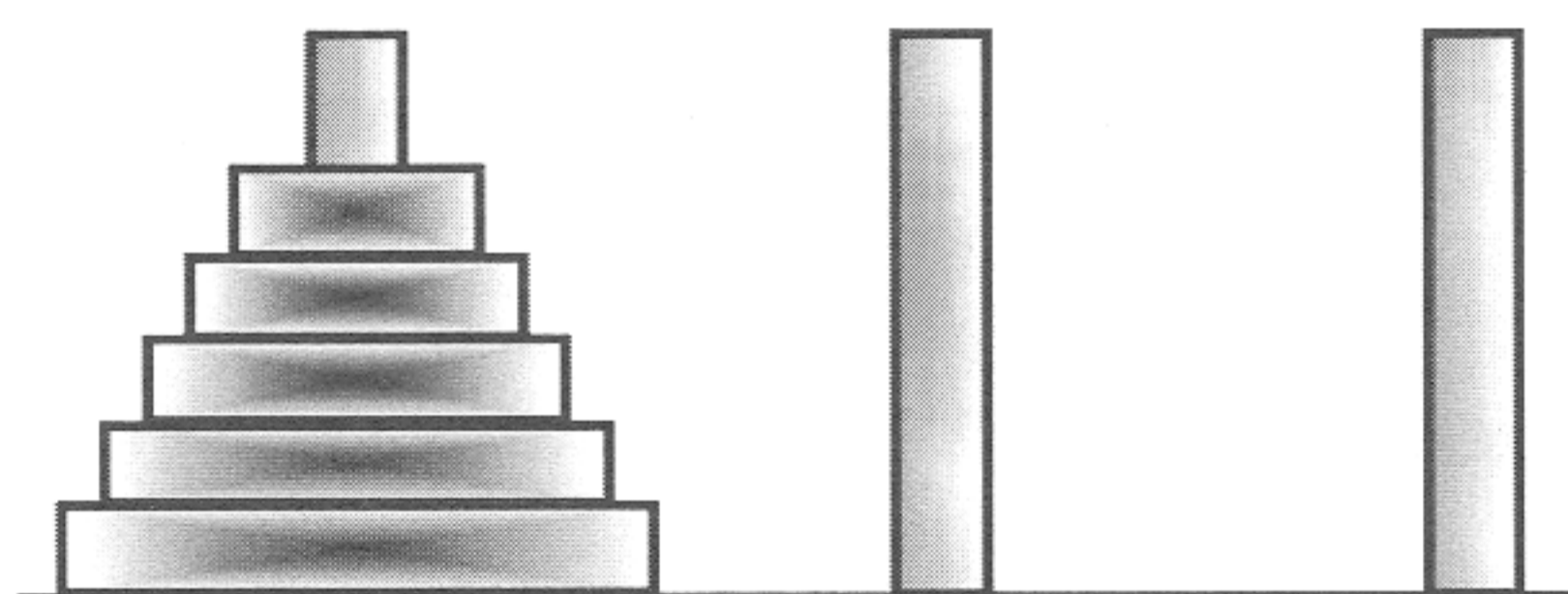
In keeping with the theme of this issue, I have put together a list of recommended "Games" resources for the classroom. The search for resources on this topic has not been an easy one, but with help from teachers in the Rutgers Leadership Program in Discrete Mathematics (LP) some valuable resources were found. While a number of games books do exist, there do not seem to be many that are written specifically for the classroom teacher. Materials on this topic were more likely to be found scattered in books one game at a time. I also found that many were not in keeping with our focus on problem solving, fair games or games with winning strategies. The following books therefore seem to be somewhat unique and therefore should be valuable resources to teachers who wish to incorporate this exciting topic into their curriculum.

As always, I would appreciate any comments or recommendations on this topic or this column. Your feedback on the resources that you try as a result of this column are also encouraged so that I can develop a better appreciation of the usefulness of these resources to classroom teachers of discrete mathematics.

Creating Nim Games Grades 3 and up

by Sherron Pfeiffer
 Math Project Series
 Dale Seymour Publications
 Cost - Amazon.com \$10.95
 ISBN: 1-57232-272-1

This is by far the best resource I found for implementing strategy games into the classroom. It gives an interesting history of Nim, a rationale for using this topic in a standards-based curriculum, some nice assessment tools, and some delightful strategies on how to begin and how to create your own Nim games. The book has nine variations of Nim including Classic Nim, Array Nim, Calculator Nim, Pattern Block Nim, and Path Nim, and strategy sheets to help students explore and describe their game strategies in the game process. The final section of the book is a thorough teacher's guide for having students create their own Nim-game projects as well as examples of student created projects.



Math Around the World: Teacher's Edition Grades 5-8

by Beverly Braxton, Jacqueline Barber, Linda Lipner, and Philip Gonsalves
 GEMS – Great Explorations in Math and Science
 Lawrence Hall of Science
 University of California at Berkeley
 Cost – bn.com \$25.50 (Barnes and Noble)

ISBN: 0-912511-94-X

This book contains eight multicultural games and gives detailed instructional strategies and materials for using them either in a series of class periods or at stand-alone learning stations. These classroom-tested discrete games are Nim, Kalah (also known as Mancala), Games of Alignment, Hex, Towers of Hanoi, Shongo Networks (Euler), Magic Squares, and Game Sticks. The first four on this list involve finding a winning strategy. Game Sticks involves probability and the notion of determining a fair game.

In my search for books about games a few other books were recommended by LP teachers. Although I have not had time to examine these resources personally, the descriptions and recommendations from LP teachers who have found them useful warrant their inclusion on this list.

Math Puzzle Mini-books Grades 3-6

by Michael Schiro and Rainy Cotti
 Scholastic Book Clubs, Inc.
 1-800-SCHOLASTIC - Item # 918092
 ISBN: 0-590-918095
 Cost - \$8.95 plus \$2.25 postage and handling

From Mary Kay Varley (LP '96) comes the following description and recommendation: "These are reproducible books of 8 pages each, the size of a gift card, which deal with One Line Drawings, Nim games, Paths and Circuits, Magic Squares, etc. My 3rd and 4th graders loved them."

Board Games Around the World: A Resource Book of Mathematical Investigations Grade: 7

by Robbie Bell and Michael Cornelius
 Cambridge Press
 Cost: bn.com \$20.95 (Barnes and Noble)
 ISBN: 0-521-35924-4

This book includes a selection of some 60 games, along with a brief history, description of rules, and suggestions for investigating strategies. Mary Reynolds (LP '97) states in her recommendation, "This book follows a game through the centuries and around the world. In addition, it also has the winning strategies in the back of the book. I am in the process of trying the Mancala games for a unit with the Social Studies teacher on Egypt. The students have already done the Morris game and found the strategy."