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FROM NCTM

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ADMINISTRATOR'S GUIDE: HOW TO SUPPORT AND IMPROVE MATHEMATICS EDUCATION IN YOUR SCHOOL

Amy J. Mirra, 2003. 47 pp., \$14.95 paper. ISBN 0-87353-552-9. Copublished by the National Council of Teachers of Mathematics (NCTM) and the Association for Supervision and Curriculum Development. NCTM, 1906 Association Dr., Reston, VA 20191, (800) 235-7566.

This book provides a reference for administrators trying to evaluate or understand certain aspects of the mathematics program at their school. In my opinion, it can only be used as a simple guide to help administrators know what to look for when visiting mathematics classrooms and discussing curriculum with teachers. The book should not serve as a substitute for a department chairperson or curriculum co-

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ordinator who is knowledgeable about mathematics and understands the building blocks to higher education.

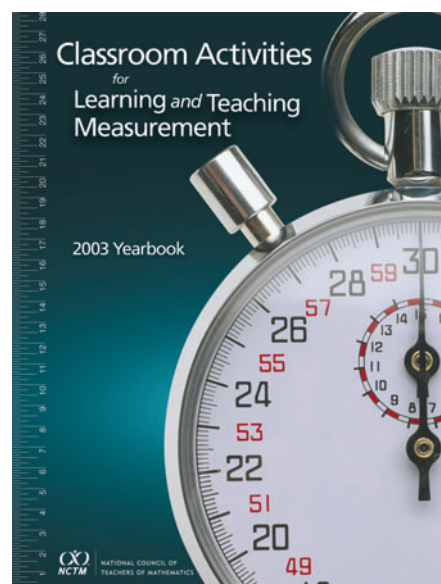
Since the price is only \$14.95, it is probably a good book for a principal or division chairperson who has no background in mathematics education to use as an occasional reference.—*Corinne Grandolfo, Rye Country Day School, Rye, New York.*

LEARNING AND TEACHING MEASUREMENT (2003 YEARBOOK OF THE NATIONAL COUNCIL OF TEACHERS OF MATHEMATICS); CLASSROOM ACTIVITIES COMPANION BOOK

George W. Bright and Douglas H. Clements, eds., 2003. 408 pp., \$49.95 cloth. ISBN 0873535391. National Council of Teachers of Mathematics, 1906 Association Dr., Reston, VA 20191-1502, (800) 235-7566.

From a second-grade student investigating how to measure a rectangle with a broken ruler to a high-school-level graphing calculator investigation into the precision of pi, this 2003 Yearbook extensively investigates many aspects of measurement.

As a middle school teacher, I feel it is important to know where our students are coming from and where they are going in terms of the curriculum. *Learning and Teaching Measurement* provides a look into the elementary classroom to show us how young children develop the concepts of length, area, volume, and time. The second half of the book provides many ways to infuse measurement concepts into the secondary level curriculum. Connections to history, science, technology, and hands on activities are a common thread throughout the book. Bright and Clements present the material in an engaging, conversational



style. The companion book *Classroom Activities* contains sets of worksheets and teacher notes to recreate the activities presented in the Yearbook. More than half of the activities in the companion book are appropriate for middle school students.

Since much of the middle school curriculum has connections to measurement, I would recommend this book to teachers looking for ways to enrich their lessons and provide their students with an opportunity to apply and analyze measurement with higher-order thinking skills.—*Ellen Mangels, Baltimore County Public Schools, Baltimore, MD 21204.*

FROM OTHER PUBLISHERS

DR. MATH GETS YOU READY FOR ALGEBRA

The Math Forum, 2003. viii + 178 pp., \$14.95 paper. ISBN 0471225568. J. Wiley, 1 Wiley Dr., Somerset, NJ 08875; (800)

225-5945; www.wiley.com.

Dr. Math Gets You Ready for Algebra is a compilation of actual letters from students who were having difficulties with some of the basic mathematics concepts that are used as a basis for algebra. The questions are answered in detail by math doctors from the Math Forum's "Ask Dr. Math" service. The content of the book is aimed at students in prealgebra or first-year algebra.

The book is well organized; its five sections include fundamental operations, integers, concepts of real numbers, equations with variables, and word problems and real-life situations. The question-and-answer format is excellent, and the explanations are easily read and understood. Also, Web resources for further exploration of concepts are included at the end of each section.

I shared this book with a colleague who teaches prealgebra. She was very impressed and expressed her desire to obtain this book for use in her classes. My first-year algebra students were helped by the explanations of different concepts. This book would be an excellent additional resource in a prealgebra classroom, an algebra I classroom, or for individuals who need extra assistance with basic concepts of algebra.—*Janie P. Bower, Hattiesburg High School-Freshman Academy, Hattiesburg, MS 39401.*

TEACHING READING IN MATHEMATICS, 2ND ED.: A SUPPLEMENT TO TEACHING READING IN THE CONTENT AREAS: IF NOT ME, THEN WHO?

Mid-Continent Research for Education and Learning (McREL), 2003. 152 pp., \$22.95 paper. ISBN 1-893476-04-9. Association for Supervision and Curriculum Development, 1703 N. Beauregard St., Alexandria, VA 22311; available from NCTM, 1906 Association Dr., Reston, VA 20191, (800) 235-7566.

This book begins with an excellent rationale for teaching reading in mathematics. The rationale is supported by a clear explanation of elements of reading, strategic processing, and strategic teaching of mathematics as well as assumptions about how mathematics is learned. The book explores what literacy in mathematics means and what that literacy involves and offers suggestions and strategies that

teachers can share with students to help them become more proficient in reading and communicating in mathematics.

An important feature of the book is the presentation of a variety of reading strategies, with excellent examples. The book's audience is K–12 classroom teachers, curriculum supervisors, curriculum coordinators, and university professors. Perhaps more strategy examples should have been included for grades 9–12.

The book's strengths include an emphasis on consistency of vocabulary, signs, and symbols. The notes columns on each page, the "Things to Think About" within each section, and the list of available workshops at the end of the book are helpful features.

When learning logs are mentioned, the importance of, and the time involved in, the teacher's response should have been stressed. It is important that teachers respond to students' writing, but it is an overwhelming task for those who have 130 students every day. It would have been nice to find a section on the use of student portfolios in the mathematics classroom.—*Donna Cronin, Cooperative Middle School, Stratham, NH 03885.*



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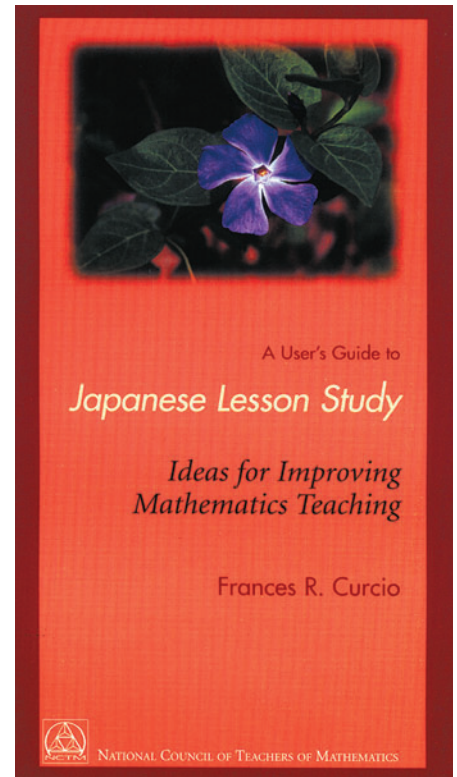
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PRODUCTS

A USER'S GUIDE TO JAPANESE LESSON STUDY: IDEAS FOR IMPROVING MATHEMATICS TEACHING

Frances R. Curcio, 2002. \$21.95. ISBN 0-87353-528-6. Videotape running time: 7:25 minutes, 30 pp. user's guide. National Council of Teachers of Mathematics, 1906 Association Dr., Reston, VA 20191, (800) 235-7566.

This media set is intended to introduce the theory of Japanese Lesson Study to both preservice and in-service American



mathematics educators. Drawing from a Tokyo seminar that was held following the Ninth International Congress on Mathematical Education in 2000, the integrated print and video materials provide an overview of the major aspects of this professional development activity. Teachers are shown doing initial collaborative planning before beginning a lesson in which primary-grade students work to determine whether twelve pentominoes can fit onto a grid. The English narration of video excerpts from the actual teaching is complemented by the translation of the lesson script in the guide, thereby simulating the observing phase. As the video moves to analytic reflection and as a reference is made to the undocumented stage of "on-going revision," one can appreciate the very deliberate planning that is characteristic of Japanese mathematics education.

Even in such a modest publication, Curcio included a detailed lesson plan that situated the concepts in the context of prior learning and specified teacher actions, central learning activities, anticipated student responses, and teacher emphases and remarks. In this way, it is possible for viewers and readers to experience—albeit vicariously—the Lesson Study phenomenon.

I recommend this introductory descrip-

tion, realizing that any dissatisfaction is likely to center on its brevity. Mathematics educators will predictably want to know more and might like to participate in the actual study groups that are becoming increasingly visible in this country.—*Barbara Burkhouse, College of Education and Human Development, Marywood University, Scranton, PA 18509.*

FROM OTHER PUBLISHERS

DAILY TANTALIZERS: MATH

Thomas O'Brien, 2003. Student Journals: \$119.95 for set of 30 spiral-bound journals. Gr. 6: ISBN 0-7406-0341-8; Gr. 7: ISBN 0-7406-0342-6; Gr. 8: ISBN 0-7406-0343-4. Teacher Resource Manuals: \$23.95 each. ETA/Cuisenaire, 500 Greenview Ct., Vernon Hills, IL 60061, (800) 445-5985, www.etacuisenaire.com.

Each of the three books in this series contains 180 problems that involve critical thinking. They are intended for use in the classroom as journal warm-ups or as closing questions. The problems are suitable for almost any group of students since they lend themselves to differentiation within a class. Each problem contains an extension idea to stretch students' thinking. For example, the books contain this sixth-grade problem:

What number am I?

- I have two digits.
- My digits add to 17.
- I am odd.

The extension asks, "Is there a unique answer? What if one of the criteria was deleted?"

A key strength of this set of books is its simplicity for classroom use. The books consist of ready-to-use problems, and the class set of *Student Journals* would further facilitate classroom use. Some of the problems are rather simple, but they sometimes cover challenging topics, such as using variables to generalize a pattern. The book also includes a chart correlating each problem to NCTM's Content and Process Standards. More problems deal with number sense than with any other content area, but additional topics range

from estimating measurements to discussing probability concepts. Taking the time to find a precise topic will reveal many activities that provide a fun introduction to a day's lesson.

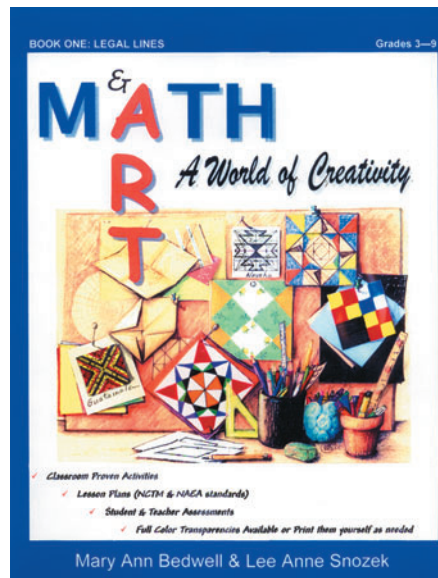
I found the problems to be useful in leading students to think critically, as our state's standards-based assessment requires.—*Susan Brainerd, Eagle County School District, Eagle, CO 81632.*

MATH AND ART: A WORLD OF CREATIVITY

Mary Ann Bedwell and Lee Anne Snozek, 2001. Gr. 3–9, book in CD-ROM format, \$24.95. *World of Creativity*, 1121 East Maple St., Rich Hill, MO 64779, www.worldofcreativity.org.

This book in CD form is written for teachers of students in grades 3–9 to introduce and reinforce geometric concepts and vocabulary in a meaningful and engaging manner. The five lessons explore the connections between plane geometry and art with an American history connection. Included terms relate to polygons, lines, and angles.

Math and Art neatly incorporates vital geometric vocabulary and ideas in interesting art lessons that involve folding paper, drawing precise lines, and investigating other enjoyable activities. The exercises in this book are well organized in a teacher-friendly format. Each lesson plan includes historical background, instruction, a teaching strategy, an assessment guide, bulletin-board plans, and transparency masters.



My students enjoyed the activities and created beautiful designs for display in our hallway, but many of my students had difficulty implementing the sequenced verbal directions. The dimensions of one of the transparencies presented another problem. The directions called for giving students a "6-inch" square, so I duplicated the master for each student. When the students began to measure for the "door folds," we found that the "square" measured $5\frac{3}{4}$ inches by $5\frac{7}{8}$ inches.

I would recommend using the activities in the book for review of geometric terms. I particularly appreciated the attention to precision in discussing geometric terminology. The program was well organized, but I would have preferred a book format with prepared transparencies.—*Linda King, Windsor Middle School, Imperial, MO 63052.*

USING AND APPLYING MATHEMATICS AT KEY STAGE 2

Elaine Sellars and Sue Lowndes, 2003. 97 pp., \$20.95 paper. ISBN 1853469602. Published by David Fulton Publishers; distrib. by Taylor & Francis/Routledge Distribution Center, 10650 Toeppen Dr., Location 07, Independence, KY 41051, (800) 634-7064.

Using and Applying Mathematics at Key Stage 2 by Sellars and Lowndes contains eleven tasks aimed at teaching strategies to enhance problem-solving skills. According to the authors, problem solving has to be taught, and students need to be "stretched sideways" rather than pushed on to develop their mathematical abilities. They suggest using four or five tasks from this resource during the course of a school year.

Each task is explained and includes ideas about introducing the task and writing about the investigation, as well as extension ideas. For some tasks, there are examples of student work and pictures of students involved in the task. A few classic problems are included, such as the prisoners and jailers who lock and unlock cells on the basis of factors and multiples. Another offering involving arithmetic progression is the handshake problem, in which everyone in the room wants to shake hands once. In this task and others,

such as “T Shape” and “Pond Borders,” students are led from numerical calculations to algebraic generalizations.

This resource is suitable for seventh- and eighth-grade students and could be used with cooperative groups. My seventh-grade students found the problems to be interesting as well as challenging. There is no mention of the NCTM’s Standards, and the mathematics content is not delineated, so the user must read through the tasks to connect them to the curriculum. The authors state that resource sheets are included, but the title page advises that no part of the publication can be reproduced. There are no blackline masters for task introduction, and it is unclear what would be permissible to reproduce for classroom use.

Although there are some negative features, *Using and Applying Mathematics at Key Stage 2* offers several worthwhile problem-solving tasks. Novice teachers would benefit from seeing the samples of student work that show actual results when these tasks were used in the classroom.—*Gloria A. Gombar, City Hill Middle School, Naugatuck, CT 06410.* □

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