WHAT'S NEW?

The following resources are available from the NCTM Customer Services Department at 1-800-235-7566, e-mail orders@nctm.org. NCTM members receive a 20-percent discount off the purchase price.

★ *Mathematics for Every Child*, an eight-minute video, highlights the positive changes taking place in mathematics classrooms and espouses the leadership role NCTM had played in shaping today's mathematics education.

NCTM representatives of each affiliated group and teacher educators placing orders for starter kits or mini-subscriptions received complimentary copies of the video for use in presentations and membership recruitment programs. The video is also available to all mathematics educators for U.S.$10.

★ A new collection of six colorful posters to display and discuss in your class is available. They offer brainteasing problems in addition, subtraction, algebra, geometry and palindromic numbers. Each poster is 45.72 by 60.96 cm and costs U.S.$8.

- Which Triangles Have the Same Area? Grades 4–9, 609AGN
- Palindromic Numbers Grades 3–8, 607AGN
- How Many Triangles, Squares, etc.? Grades 3–10, 606AGN
- Find Numbers on the Chart (odd, prime, multiples) Grades 3–8, 604AGN
- How Many Nails? (algebraic thinking) Grade 3–9, 605AGN
- What Happens If You? (subtraction) Grades 3–8, 607AGN

★ *NCTM's Reissues—Tools for Today's Math Teacher.* These five yearbooks were selected as special reissues because they are treasures that enriched math education in a unique way. The issues they focused on are still relevant. Each book is 15.24 by 22.86 cm and is list-priced at U.S.$15.

- *1st Yearbook: A General Survey of Progress in the Last Twenty-Five Years, 1926*, 210 pp., ISBN 0-87353-396-8, 565AGN
- *6th Yearbook: Mathematics in Modern Life, 1931*, 195 pp., ISBN 0-87353-398-4, 567AGN
- *11th Yearbook: The Place of Mathematics in Modern Education, 1936*, 258 pp., ISBN 0-87353-400-X, 569AGN
- *13th Yearbook: The Nature of Proof, 1938*, 146 pp., ISBN 0-87353-402-6, 571AGN
- *21st Yearbook: The Learning of Mathematics—Its Theory and Practice, 1953*, 353 pp., ISBN 0-87353-404-2, 573AGN
- All five reissued yearbooks package price U.S.$60. ISBN 0-87353-406-9, 575AGN

✦ *Algebra in a Technological World: Addenda Series, Grades 9–12* by Kathleen Heid, Jonathan Choate, Charlene Sheets and Rose Mary Zbiek. Addresses high school algebra in light of the NCTM Standards and the dramatic changes brought about by graphing calculators and computer software. Many classroom-tested activities using algebraic functions and mathematical modeling to explore real-world situations. 21.59 by 27.94 cm, softcover, 168 pp., ISBN 0-87353-326-7, 467AGN, U.S.$15 list price.

★ NCTM's newest Standards document, *Assessment Standards for School Mathematics*, answers the prevailing question, How can educators effectively assess students' performance and progress? Assessment takes many forms, and this book will update you on alternative assessment techniques.

An important theme of the *Assessment Standards* is that the assessment of students' achievement should be based on information obtained from a variety of sources—and that much of this information should be gathered by teachers during the instruction process.

This excellent guide will show you that

- teachers can set high expectations that every student can achieve;
- different performances can and will meet agreed-on expectations; and
- teachers can be fair and consistent judges of students' performance.

The *Assessment Standards* is the third book in the Standards trilogy. It complements the *Curriculum and Evaluation Standards for School Mathematics* and the *Professional Standards for Teaching Mathematics*. 21.59 by 27.94 cm, 112 pp., ISBN 0-87353-419-0, 593AGN, U.S.$15. All three Standards books for U.S.$60, ISBN 0-87353-420-4, 613AGN

★ *Seventy-Five Years of Progress: Prospects for School Mathematics*, edited by Iris M. Carl and

sponsored by the Mathematics Education Trust, details the critical reform issues facing K–16 mathematics education and the prospects for their advancement into the 21st century. 15.25 by 22.86 cm hardback, 340 pp.; ISBN 0-87353-418-2, 036AGN, U.S.$20 list price.

The following publications are available from the Grand Valley Mathematics Association. Orders under $50 must be paid in advance. Please forward your order with payment or a purchase order (for no less than $50) to Patty Mah, Faculty of Mathematics, University of Waterloo, Waterloo, ON N2L 3G1; fax (519) 746-6592. Make cheques payable to Grand Valley Mathematics Association.

- ★ *An Outcomes Based Grade 9 Mathematics Program (1995), $10*
  This new 35-page publication includes outcomes, tests, an exam, portfolio ideas, report cards, assessment strategies and much more.
- ★ *OAC Algebra and Geometry Sample Final Exams* (1994), $5
- ★ *OAC Calculus Sample Final Exams—II* (1993), $5
- ★ *OAC Finite Mathematics Sample Final Exams* (1989), $5
- ★ *MAT3A1 Sample Examination* (1991), $2
- ★ *MAT4A1 Sample Examination* (1990), $2
- ★ *Computers and Graphing Calculators in the Math Classroom* (1993), $12
- ★ *Teaching in the Transition Years* (1990), $12

10 Guidelines for Math Teachers

1. Believe in yourself and your ability to *think* and *reason*. Risk new methods, approaches, horizons and math experiences, and give your students opportunities for the same. Know and be interested in your subject.
2. Self-confidence is the foundation of knowledge and growth. Create activities and experiences that will build student confidence in themselves and their ability to understand and "do" math.
3. Connect mathematics to the lives of the students you teach. Make the problems real, down to earth and practical. Also link math concepts to other areas of the curriculum.
4. Realize that the best way to learn anything is to discover it. Give your students the "right" to make mistakes. Encourage students to make an honest attempt at solving each problem, without the fear of being laughed at or made fun of by others.
5. Use problems and questions that have multiple answers. Allow them to learn by guessing. Place more emphasis on the process than on the answer. Expect your students to think out their work and explain their reasons for the methods they chose as well as for the answers to their math problems. Reasoning is the essence of what mathematical teaching is all about.
6. Encourage group work, cooperation, team work, verbal communication: a real sharing of ideas among your students. Suggest . . . do not force. (Allow bright students to help and encourage slow students, offering some challenge to both groups.)
7. Make math communication (written and oral) an essential part of the math curriculum.
8. Use manipulatives as integral to mathematics instruction at all grade levels. These tangibles should be available to your students to ensure a deeper understanding of mathematical processes and concepts.
9. Allow ample opportunity for creativity, curiosity, exploration of the unconventional and room for the personal interests of the students to "interrupt" and complement the curriculum. (Remember that the NCTM recommends calculators as essential to fostering new areas and eliminating the drudgery of long, complex calculations.)
10. Prepare your class well. Be willing to explore areas of math that you, personally, are less sure of. Experiment with new methods and approaches of teaching. Remain "open" to ideas and directions that you have not been previously exposed to.

Think positively!

Remember: You are a facilitator, a coach, a guide, a leader—not a dispenser of knowledge or a "sage on the stage."

Louise M. Lataille