



# Mathematics Council NEWSLETTER

The Alberta Teachers' Association

*Providing leadership to encourage the continuing enhancement of teaching, learning and understanding mathematics.*

Volume 17

Number 5

June 1999

## Celebrating Math Through Literature

Edmonton Catholic Schools are celebrating math by organizing a full or half day of activities centred around math and literature. Students become actively involved in a variety of math-related activities through exposure to a good piece of fiction or nonfiction that is related to a math concept. They experience math in a motivating and experiential way and, through literature, see math in a context. Following is an outline for organizing a day around "math and literature."

- It is best to plan separate activities for Divisions 1 and 2 with some activities that overlap. You may choose to do Division 1 on a separate day as well.
- The size of the group should not exceed 15 or 16 so as to make sure that all students are having success with the activity. The number of groups will determine the number of activities, although duplicating activities can be done successfully.
- Each activity should last about 40 minutes. Groups will move from one activity to another.

Activities include the following:

- *Bubblemania*—measuring distance around, diameter and height of bubbles blown on a table
- *Who Sank the Boat?*—construction, mass and estimation
- *The Keeping Quilt*—2D shapes, transformational geometry, tessalations
- *Guinness Book of World Records*—problem-solving strategies centred around world facts
- *How Much Is a Million, What's Smaller Than a Pigmy Shrew?*—estimation with quantity, mass, volume
- *Charlie and the Chocolate Factory* (excerpts)—probability
- *Ten Black Dots*—number, skip counting, number patterns
- *10 for Dinner*—statistics
- *Grandfather Tang's Story*—2D geometry

Learning journals were used to record responses and to comment on learning throughout the day. Students and teachers who participated in this day found it to be worthwhile, and parents commented on the excitement that came home. This is a great way to celebrate math.

If you would like more information on how to organize the day and on specific activities, please e-mail or fax Betty Morris at [morris@ecs.edmonton.ab.ca](mailto:morris@ecs.edmonton.ab.ca), phone (780) 441-6105, fax (780) 441-0181. ▲

—Betty Morris

## Notice of Motion

The Constitution of the Mathematics Council of the Alberta Teachers' Association (MCATA) requires that the three months' notice of motion to the membership be given in order to amend the constitution.

At its May 28-29, 1999, meeting the MCATA executive committee approved the following amendments to the constitution and recommends them for approval at the annual general meeting October 22, 1999.

1. Moved Jeary/Weisbeck that article 3(c) of the MCATA Constitution be amended to read: "Student members of the ATA, *as specified in the ATA bylaws*, may join MCATA and shall be entitled to all benefits and services of council membership except the right to hold office. Carried.

*Rationale:* This amendment complies with Association bylaw 5.

2. Moved Ditto/Lorway that article 9 of the MCATA Constitution be amended by adding a new 9(d): In the event of a vacancy occurring in a director's position during the year, the executive may appoint from the membership of MCATA, a member to complete the term. Carried.

*Rationale:* This amendment would allow the executive to fill a vacant position should the need arise. ▲



## Highlight

Congratulations to Florence Glanfield, former MCATA president, for her appointment as Canadian representative on the board of directors for the National Council of Supervisors of Mathematics.

## ATA Symposium

On April 23–24, 1999, the Symposium on Technology in the Classroom brought together teachers and technology leaders from all over Alberta to hear about the implementation of technology throughout Alberta and to develop a set of goals and actions for the appropriate use of technology in Alberta schools. We listened to the ideas of a leader in the area of technology in education, Professor David Jonassen from Pennsylvania State University. He spoke about computers as mind tools. These mind tools engage learners in critical, higher-order thinking about the content of the subject they are learning about. He spoke about the following five categories of mindtools useful for the classroom:

1. Semantic-organizational tools, such as databases, and semantic-networking tools help learners analyze and organize what they know or what they are learning and help represent semantic relationships among ideas.
2. Dynamic modeling tools, such as spreadsheets, expert systems programs, system modeling tools and microworlds help learners describe the dynamic relationships between ideas.
3. Information-interpretation tools, such as visualization tools, and search engines to scan and search the WWW help learners to access and process the information they encounter in the world today.
4. Knowledge construction tools allow learners to construct knowledge by designing rather than just studying what others have done. Hypermedia systems are examples of this tool.
5. Conversation tools—the many telecommunications tools, such as electronic mail, bulletin boards, chats, and list serves—allow students to interact with others during the learning process.

He is offering an online course in the use of these mindtools. His presentation supported the thinking and direction in our new Alberta Information and Communication Technology Interim Program of Studies. For more detailed information on his ideas, check out his numerous books and articles. ▲

—Sandra Unrau

## NCTM '99

Over 18,000 delegates attended the 77<sup>th</sup> NCTM annual meeting in San Francisco April 22–24. Over 1,200 sessions and workshops were offered.

The proposal of metrication, sponsored by MCATA and championed by Klaus Puhlmann (who did a lot of background work), was passed. This was exciting news and will help promote the gradual introduction of metric into NCTM documents and classes in North America. While many Albertans were in attendance, special mention should go to Bob Hart from Sir Winston Churchill High School in Calgary, who was on the program committee. Bob did a great job, especially on the high school sessions, which were many and varied. Cynthia Ballheim, MCATA president, spoke on Parents—Partners. Florence Glanfield, past MCATA president, gave a major session on Learning from Colleagues.

The quality of sessions was excellent—Franklin Demana, who has pioneered technology in the classroom, gave an excellent session on Mainstreaming the Use of Computer Algebra Systems. Paul Foerster, an author with Key Curriculum Press, gave a session on Calculus. The exhibit area was about the size of two football fields and took about three to four hours to do it justice.

Addison-Wesley Longman put on a reception Thursday evening for Canadian delegates on the top of the Marriott Hotel. Delegates had a chance to meet, sing *O Canada!* and enjoy a fantastic view of this beautiful city.

—Graham Keogh

## NCTM Resolution

One highlight of NCTM's annual meeting was going to the delegate assembly and observing the eloquent Klaus Puhlmann put forth our MCATA resolution on metrication. Klaus represented us well and, needless to say, the resolution passed. Thanks to Klaus and MCATA executive for their hard work in making this a reality.

Be it resolved that, effective January 1, 2000, the National Council of Teachers of Mathematics discontinue its support of future publications making exclusive use of the American Standard of Measurement.

Submitted by the Mathematics Council of the Alberta Teachers' Association. Passed.

—Cynthia Ballheim

### Upcoming Conference

NCTM Annual, Chicago, April 13–15, 2000

# MCATA Annual Conference

October 21–23, 1999

Jasper Park Lodge

*Mathematics in Harmony with the  
New Millennium*

**Keynote Speakers: Carole Greenes and Dale  
Burnett**

**Lunch presentation by Phil Radomsky**

Join your colleagues in October and celebrate mathematics education in Alberta. The conference program includes sessions on the following topics:

- ▶ Geometry Manipulatives
- ▶ Problem Solving
- ▶ Applied Math
- ▶ Pure Math
- ▶ Mathematics Literature Connection
- ▶ Polar and Parametric on the Graphing Calculator
- ▶ Statistics and Probability
- ▶ Secondary Pure and Applied Mathematics
- ▶ Mental Math Strategies
- ▶ The Internet
- ▶ Semantic Maps for the Math Classroom
- ▶ Magic Squares
- ▶ Effective Use of TLE Math
- ▶ Networking the French Math Teachers
- ▶ Graphing in the Junior High with the TI-73
- ▶ Your Finances on the TI-83
- ▶ Achievement Testing
- ▶ Algebra Tiles
- ▶ Diploma Exams
- ▶ Technology Outcomes and Mathematics
- ▶ Math and Collaborative Projects

Prospective speakers can contact Sandra Unrau for speaker forms and expense information at (403) 777-6390, fax (403) 777-6393, e-mail sunrau@cbe.ab.ca.

Displayers can contact Betty Morris at (780) 441-6104, fax (780) 425-2272, e-mail wdmorris@telus-planet.net or Elaine Manzer at (780) 624-4221, fax (780) 624-4048, e-mail manzere@prsd.ab.ca for information.

Registration forms will arrive at schools with the June ATA school mailing. For registration information, contact Patricia Chichak at (780) 450-1813, fax (780) 469-0414.

You are entered in the Early Early Bird Draw if you register before June 15 and in another Early Bird Draw if you register prior to September 10. Draws are for one night's accommodation at Jasper Park Lodge.

## Fees

(Prior to October 1): \$175 (member), \$205 (nonmember), \$35 (student)

(After October 1): \$200 (member), \$230 (nonmember), \$35 (student)

Jasper Park Lodge room rates are \$89 plus taxes for each of October 19, 20, 23 and 24 or \$109 plus taxes for each of Thursday, October 22 or Friday, October 23. Call 1-800-465-7547. When booking, ask for the Alberta Teachers' Association Math Council.

Conference information is also found on MCATA's Web site <http://www.mathteachers.ab.ca>.

—Elaine Manzer

## One Good Problem Leads to Another

*This note, from Jack LeSage of Ontario, is about the problem in the last newsletter.*

The "Only in 1999, You Say" article is neat. However, "it" in Step 4 should be replaced with "the result" to clarify what we multiply. I got thinking about the "only in '99" comment and realized that we can generalize it. Let the number of days be  $n$  and assume that  $n > 0$ . So  $n$  is a natural 1-digit number. Here are the results of the first steps.

1.  $n$
2.  $2n$
3.  $2n + 5$
4.  $100n + 250$

Here is the modified Step 5.

5. If you have had your birthday this year, add  $y - 250$ . If you haven't, add  $y - 251$ . We now have  $100n + 250 + y - 250$  (or 251) which gives us  $100n + y$  (or  $y - 1$ ).

Now we get  $100n + y - (y - a$  or  $y - a - 1)$  where  $a$  represents my present age. So we get  $100n + y - (y - a)$  or  $100n + a$  and the result follows. Neat! The key is to get  $n$  to become  $100n$  and so Step 2 could be "multiply by 4" and so Step 4 would then be "multiply by 25."

Of course, step 2 can be changed any way we like as long as we modify the new Step 5.

This is a great example of one good problem leads to another. ▲





## Fun with Words and Numbers

Here is a fun activity to do with your kids this month, when they are just a bit bored. Hidden in this letter grid are the 50 words listed below. They may appear in any direction—horizontally, vertically or diagonally, forward or backward—but always in a straight line. You will not find the words, however, exactly as they are printed. Each word contains the sound of one or more numbers, and we have substituted these numbers for their corresponding letters in the grid. AFFORD, for example, will appear in the grid as AF4D, and ASININE will appear ASI9. One word has been looped for you as a start.

```

1 E Y P R E 1 O D L O F 5 O G 1 N U K L L 7
K C U M I 2 A E 5 J E B A F 4 D P L A Z I N
D 4 E 4 D T C Y P D S H S U G 2 T 8 2 W C 2
I N Q L M N C ½ E 2 2 V I O D C N N S V O S
S E E U E U E H L U B R 9 8 M E A 4 E 9 1 D
U O N P 2 B L M 4 N O C 8 H R E O R X I S A
O J 6 D A M R 8 S K P F G P L A 1 W 1 U G Y
R H I R S T R 8 4 W A R D C A O N X O Q A 4
D C S T 1 U C H Y I 8 N U 8 O G I A U W 2 E
1 O D E R L O I N F F 1 Z O W T E V 8 E P N
E N 8 N A 7 D 2 U 2 O L O Z R O L G R M W 6
W 1 H S Q U E L T N R O 9 6 E D O E G O 8 Z
7 O 6 D I P 2 S I U O A A P 8 1 H 1 R S O E
4 T I 2 D E M S 9 E B N C S W L 5 G U 3 H T
    
```

- |           |                        |                 |            |
|-----------|------------------------|-----------------|------------|
| AFFORD    | FIVEFOLD               | ONCE            | TENNIS     |
| ASININE   | FORENSICS              | PETUNIA         | THREESOME  |
| BEHALF    | <del>U-FORMULATE</del> | PITCHFORK       | TOODLE OO  |
| BENIGN    | FORTITUDE              | PRENATAL        | TUESDAY    |
| CANINE    | GATEWAY                | PRETEND         | TUTU       |
| CARTOON   | GEODESICS              | QUININE         | UNWON      |
| CELEBRATE | GRATEFUL               | SEVEN-UP        | UP-TO-DATE |
| CLASSICS  | GUTHRIE                | SIXPENCE        | VERMILION  |
| CONFORM   | HERETOFORE             | SOMEONE         | WAITER     |
| CONTENT   | HOLE-IN-ONE            | STENCIL         | WEIGHTY    |
| ENFORCE   | HUNDREDWEIGHT          | STRAIGHTFORWARD | WONDROUS   |
| EXTENUATE | LEAN-TO                | STUPID          | ZETA       |
|           | OBTUSE                 | TENDERLOIN      |            |

*Reprinted with permission from GAMES Magazine. Copyright © B. & P. Publishing Company. For a subscription to GAMES, phone 1-800-827-1256. For special bulk subscription rates for schools, phone (617) 536-5536.*