



NOMSTA

# Northeastern Oklahoma Math and Science Teachers Association

Volume 1, Issue 3

October 28, 2003

## NOMSTA Meeting Set for January 31, 2004

Mark Your Calendars!

The Second Annual meeting of the Northeastern Oklahoma Mathematics and Science Teacher Association (NOMSTA) will be held Saturday, January 31, 2004 from 9:00 am — 3:00 pm on the Tahlequah Campus of Northeastern State University in the University Center.

Over 130 people attended last year's conference and more than two dozen presentations were offered. These presentations ranged from a plenary session with Iva Owens, State Mathematics Director and Marcie Hickman, former State Science Director, to hands-on workshops for K-12 mathematics and science teachers. The Science workshops included such fascinating topics as Talking Trash by Kay Frank from the Solid Waste Institute of Oklahoma and Atom Building Games by Kathlene Woodring, while Mary Hynes gave us edible rocks. Dr. Calvin Cole provided information from Magnets and Motors to Electricity and Marsha Suttan explained and modeled DNA replication using felt pieces.

A variety of Mathematics workshops ranged from information on the Test Specifications of the Algebra I End of Instruction Test to Integrating Math and Reading by Shelly



2003 NOMSTA Conference

Gantt. Pre-Service Teachers from NSU demonstrated mathematical games they constructed, and Ann West helped us to "discover" important principles of quadratic functions as well as exponential growth and decay. Dr. Deborah Carment from NSU introduced us to Mathematics and quilting, while Lexy Taylor explained a hands-on system for solving equations.

This year's meeting promises to be as exciting, but we need your help! What can you do?

- First and foremost, come to the conference! Registration forms are on page 4.
- Sign up to present a hands-on workshop. The Call for Presenters form is on page 5.
- Invite PK-16 mathematics and science teachers and others who are interested in mathematics and science education to attend and/or present at the conference.
- Nominate yourself or someone else to serve as a NOMSTA Officer or Board Member. Nomination forms are on the back page.

NOMSTA is a professional organization of and for teachers. We need you!

Just as last year, pre-registration is \$10.00 and includes lunch. On-site registration the day of the conference is \$15.00. If you register on-site, we may not be able to provide you lunch. Pre-registration forms are due January 10th, 2004.

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### NOMSTA Conference (Tentative) Agenda

#### On-Site Registration

8:30-9:00 am

#### Plenary Session

9:00-9:45 am

#### Workshops I

10:00-11:00 am

#### Workshops II

11:15 am-12:15 pm

#### Lunch & NOMSTA Meeting

12:30-1:30 pm

#### Workshops III

1:45-2:45 pm

## A Note from the President

*From the desk of NOMSTA President Timmie Spangler:*

NOMSTA Members,

Whew! The first nine weeks have flown by. I hope that you have all had a very productive start to the new school year. Many of us have probably already started, or are getting ready to start, our MASTEP unit plans. I know that the July MASTEP participants are in the process of getting their grant supplies. Don't forget! When you are finished, send your film to Jon Pedersen and your final report to Dr. Adams.

I really enjoyed seeing many of you at the OSTA annual meeting in Oklahoma City. I am looking forward to Kansas City in November. Don't forget to set Saturday, January 31, aside for the second annual NOMSTA meeting. I look forward to seeing everyone. It is really nice to be able to network with such an amazing group of teachers. This is one of the driving forces behind our association. Your involvement is essential to the growth of our organization. Thanks, again, for being such an outstanding group with whom to work.

Sincerely,  
Timmie

## MASTEP Participants Attend OSTA Conference

MASTEP was well represented at the Oklahoma Science Teacher Association Conference on October 25, 2003 at the Oklahoma City Zoo. Timmie Spangler, Cherinell Riley and Renae Shoate presented a hands-on workshop entitled, "How Dense Is Your Soda?" (Note that one of the activities that they presented is included in this newsletter on page 3.) The following people also attended: Laura Brown Everley, Kerry Goode, Steve Hardy, Gayla Hatfield, Jeff Hedger, Jenean Hendrickson, Jini Jeyarajah, Janet Polson, Melissa Worley, Sondra Baker, Marybeth Flusche, Melissa Parnell, Sarah Sousa, Myron Cherry, and April Adams.

Each MASTEP participant received a travel stipend to attend this meeting. In addition, the following MASTEP Participants will be attending the National Science Teacher Association Area Conference in Kansas City Nov. 13-15th, 2003: Laura Brown Everley, Kerry Goode, Steve Hardy, Gayla Hatfield, Jeff Hedger, Jenean Hendrickson, Jini Jeyarajah, Sandra Baker, Marybeth Flusche, Peggy Hart, Vicky Hurst, Jeff Lawrence, Cherinell Riley, Sarah Sousa, Timothy Smythe, Timmie Spangler, Skyleen Willingham, Melissa Parnell, Craig Clifford (Dean of the College of Math, Science, and Nursing) and April Adams.

Congratulations to **Melissa Parnell** who was elected to the OSTA Board as the Northeastern Director and to **Andrea Melvin**, who received the first OSTA Science Beyond the Classroom for her work as Program Manager for Earth Storm, a project of the Oklahoma Climatological Survey.!

## New NSU Summer 2004 Science Education Graduate Course

NSU will offer a new graduate course this summer entitled, **SCI 5513 Inquiry Based Science Instruction in Science Education**. This course was developed in conjunction with the NSU Mathematics and Science Teacher Enhancement Project (MASTEP), a National Science Foundation funded program. This particular course is not supported by NSU MASTEP funding, but is part of the proposed Masters Degree in Science Education.

Tuition and fees for this course total \$326.40. (Additional fees may be assessed. Please consult the NSU Summer Schedule.) Class will meet on the Tahlequah campus from 9 am — 11:50 am Monday through Thursday, June 7th — July 1, 2004. The instructor will be Dr. April Adams.

**SCI 5513 Inquiry Based Instruction in Science Education Course Description:** Designed for middle school and high school science teachers, this course will focus on the methods, benefits, assessment, underlying theoretical frameworks, and implementation of inquiry-based science instruction in middle school and high school.

For more information contact  
Dr. April Adams, [adams001@nsuok.edu](mailto:adams001@nsuok.edu).

### Inquiry in the Classroom...

by Cherinell Riley, NOMSTA high school representative

Here is an activity presented at the Oklahoma Science Teacher Association Meeting in Oklahoma City, OK on Saturday, October 25, 2003 by Timmie Spangler, et. al. This can be adapted to any grade level. It works well with in groups of four students.

#### WILL IT SINK OR FLOAT?

Equipment: Water, saltwater, beakers or other calibrated containers like plastic pitchers, diet soft drinks in aluminum cans, regular soft drinks in aluminum cans, safety goggles, and Graph paper (optional).

1. What is your idea? Make both qualitative and quantitative predictions about what will happen when you place diet and regular soft drinks (unopened full cans) into water, and saltwater in beakers or plastic pitchers.
2. What are the group's ideas? List all the predictions made by your group. Do any of the predictions contradict each other?
3. Making Observations! Place the soft drink can systems (unopened full cans) into the liquids. What qualitative and quantitative observations can you make?
4. Making Sense! Organize what you have observed in a chart. Make more observations if necessary to complete your chart. What is the same about the soft drink can systems? What is different about the soft drink can systems? What is the same about water and saltwater? What is different about rubbing alcohol, water and saltwater?

Extensions:

\* Add alcohol to the water in one of the containers and see if the soda floats or sinks in it.

\* Technology- Students can use TI-83's to enter density values and find the mean values and then plot the data.

\* Additional Questions:

1. If you were asked to find the density of milk in a glass, would you need to use all of the milk in the glass? Give reason(s) for your answer.
2. Think of at least five pairs of common things that have the same volume, but different densities. Think of at least five pairs of common things that have the same mass, but different densities. Which item of each pair has the larger density?

This activity reaches the following Oklahoma PASS Objectives for Physical Science Grade 8:

Process Standard 1- Observe and measure.

1. Identify qualitative and or quantitative changes given conditions before, during and after an event.

Process Standard 4- Interpret and communicate

2. Evaluate data to develop reasonable explanations and or predictions.

Process Standard 5- Inquiry

1. Use systemic observations, make accurate measurements and identify and control variables.
3. Review data, summarize data and form logical conclusions.

Standard 1- Properties and Chemical Changes in Matter.

2. Matter has physical properties that can be measured. In chemical reactions and physical changes, matter is conserved.

## NSU Charters NSTA Student Chapter

Northeastern State University has established a National Science Teacher Association student chapter (NSU NSTA). Membership is open to all Science Education, Elementary Education, Early Childhood Education, and Special Education majors. Each student member will receive a free one-year student membership in the national organization (\$30 value.) The membership includes a year's subscription to Science and Children (for elementary teachers), Science Scope (for middle school science teachers), or The Science Teacher (for high school science teachers).

The purpose of the student chapter is to:

- To promote the mission of NSTA (promoting excellence and innovation in science teaching and learning for all);
- To acquaint pre-service teachers of science with the support resources available from NSTA;
- To provide additional professional development in science education to pre-service teachers;
- To acquaint pre-service teachers of science with others like themselves at their university or college and across the United States and Canada; and
- To promote the field of secondary science education to science majors and other undergraduates.

NSU NSTA officers are Amanda Bennett, president; Jennifer Russell, program/vice president; Jennifer Herndon, membership/secretary/treasurer; and Shannon White, newsletter/publicity. **Our next meeting will November 10, 2004 in Room 214 of the Science Building, NSU Tahlequah Campus.** More information concerning the NSTA student chapter program may be found at: [www.nsta.org/chapters#student](http://www.nsta.org/chapters#student).

Pre-Registration Form  
**Annual Conference of the  
Northeastern Oklahoma Mathematics and Science Teacher (NOMSTA)**

<http://arapaho.nsuok.edu/~NOMSTA>

**January 31, 2004, 9:00 am - 3:00 pm**

**Northeastern State University, Tahlequah Campus**

***Deadline for Pre-Registration is January 14, 2004***

On site registration is from 8:00 am -9:00 am

Sponsored by the NSU Mathematics and Science Teacher Enhancement Project

(NSU MASTEP) <http://arapaho.nsuok.edu/~adams001/MASTEP2002.htm>

A National Science Foundation funded project

Name \_\_\_\_\_

Address \_\_\_\_\_ Phone: \_\_\_\_\_

City, State: \_\_\_\_\_ Zip \_\_\_\_\_ E-mail \_\_\_\_\_

Are you currently a member of NOMSTA? \_\_\_\_\_ Yes \_\_\_\_\_ No

Please check all that apply.

Elementary Teacher

M.S./ Jr. High Teacher

Sr. High Teacher

College/University Faculty

Administrator

Undergraduate

Curriculum Specialist

Other \_\_\_\_\_

Subject Area

Mathematics

Elementary School Mathematics

6<sup>th</sup> Grade Mathematics

7<sup>th</sup> grade Mathematics

8<sup>th</sup> Grade Mathematics

Algebra I/II

Geometry

Trigonometry

Analytical Geometry

Pre-Calculus

Calculus

Elementary General

Science

Elementary School Science

Integrated Science

Biology, Life Science

Earth Science/Space

Physical Science

Chemistry

Physics

Environmental Science

Astronomy

Pre-Registration fee is \$10 if sent by January 14, 2004 and includes lunch.

Registration at the door is \$15 and does not include lunch.

**Send this completed form and \$10 by January 14, 2004 to**

**Stacy Ezell, NOMSTA**

**Membership Secretary/Treasurer**

**Rt. 2, Box 123A**

**Haskell, OK 74436**

**Call for Proposals**  
**Northeastern Oklahoma Mathematics and Science Teacher Annual Conference**  
**Northeastern State University, Tahlequah Campus**  
**January 31, 2004, 9:00 am - 3:00 pm**

Please type or print clearly below, as you want the information to appear in the program. Attach information for additional co-presenters if necessary.

Session Title: \_\_\_\_\_

Brief Description of the Session (25 word limit):

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Presenter One**

**Co-Presenter**

Name: \_\_\_\_\_

Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Home Phone: \_\_\_\_\_

Home Phone \_\_\_\_\_

Work Phone: \_\_\_\_\_

Work Phone: \_\_\_\_\_

E-mail: \_\_\_\_\_

E-mail: \_\_\_\_\_

**Type of Session (50 Minutes):**

- Hands on Activity
- Demonstration
- Information (Lecture set up)
- Commercial Workshop

**Audience:**

- Elementary
- Middle School
- High School
- College/University
- General

**Session Size:**

- 0-15 people
- 15-30 people
- Lecture (More than 30 people)
- I am willing to repeat my session.

**Subject Area (Circle all that apply):**

**Mathematics**

- Elem. School Mathematics
- Middle School Mathematics
- Algebra
- Geometry
- Trigonometry
- Pre-Calculus
- Statistics/Probability
- Calculus
- Mathematics Education

**Science**

- Elem. School Science
- Life Science
- Chemistry
- Physics
- Physical Science
- Earth/Space
- Environmental
- Science Education

**Audio/Visual Equipment:**

- Overhead Projector
- Computer Lab
- Tables

The presenter must provide all other audio/visual items.

All proposals must be submitted by **December 2, 2003.**

Send Proposals to Dr. April Adams, Northeastern State University, College of Math, Science and Nursing,  
 611 N. Grand, Tahlequah, OK 74464-2302, or FAX them to 918-458-2325.

**Northeastern Oklahoma  
Mathematics and Science Teacher Association  
NOMSTA  
<http://arapaho.nsuok.edu/~NOMSTA>  
Membership Form**

**Yes I want to join NOMSTA!**

**Name** \_\_\_\_\_

**Address** \_\_\_\_\_ **Phone:** \_\_\_\_\_

**City, State:** \_\_\_\_\_ **Zip** \_\_\_\_\_ **E-mail** \_\_\_\_\_

**Please check all that apply.**

- |   |  |
|---|--|
| <input type="checkbox"/> Elementary Teacher         | <input type="checkbox"/> Administrator         |
| <input type="checkbox"/> M.S./ Jr. High Teacher     | <input type="checkbox"/> Undergraduate         |
| <input type="checkbox"/> Sr. High Teacher           | <input type="checkbox"/> Curriculum Specialist |
| <input type="checkbox"/> College/University Faculty | <input type="checkbox"/> Other _____           |

**Subject Area**

**Mathematics**

- Elementary School Mathematics
- 6<sup>th</sup> Grade Mathematics
- 7<sup>th</sup> grade Mathematics
- 8<sup>th</sup> Grade Mathematics
- Algebra I
- Geometry
- Algebra II
- Trigonometry
- Analytical Geometry
- Pre-Calculus
- Calculus
- Mathematics Education

**Science**

- Elementary General
- Elementary School Science
- Integrated Science
- Biology, Life Science
- Earth Science/Space
- Physical Science
- Chemistry
- Physics
- Environmental Science
- Astronomy
- Science Education

Annual Membership is FREE! Simply return form to:

Stacy Ezell, NOMSTA  
Membership Secretary  
Rt. 2, Box 123A  
Haskell, OK 74436

Membership Benefits include: NOMSTA Quarterly Newsletter and an Invitation to the NOMSTA Annual Meeting on **January 31, 2004** at Northeastern State University, Tahlequah. (Pre-Registration fee for the Annual Meeting is \$10.00 and includes lunch.)

## MASTEP 2004 Application

The Mathematics and Science Teacher Enhancement Project (MASTEP) is a National Science Foundation funded program that provides professional development for middle school math and science teachers. This summer there will be both a June and July session in math and in science. A total of four math courses and four science courses will be taught.

June 7—July 1, 2004                      Mathematics Track

Data Analysis and Geometry

June 7—July 2, 2004                      Science Track

Investigative Biology and

Inquiry into Physical Science I

July 7—July 31, 2004                      Mathematics Track

Number Theory and Rate of Change

July 7—August 2, 2004                      Science Track

Inquiry in Environmental Biology and

Inquiry into Physical Science II

Participants receive a stipend (Math teachers receive a total stipend of \$1,200 and science teachers receive a total stipend of \$1,500), six hours of graduate credit with no fees or tuition, the opportunity to apply for MASTEP Supply Grants of up to \$500 for materials for the classroom, the opportunity to apply for MASTEP Conference Stipends of up to \$500 so that participants can travel to professional conferences, and free registration for the 2005 meeting of NOMSTA. Application forms can be copied from the web site at <http://arapaho.nsuok.edu/~adams001/MASTEP2002.htm>, or call Melissa Moore, MASTEP Coordinator at 918-456-5511 ext. 3812 to receive an application by FAX.

*This program is dependent upon the continuation of funding.*

## Upcoming 2003 Events

November 6-8	NCTM Regional Conference	Charleston, SC
November 13-15	NSTA Midwestern Area Convention	Kansas City, MO
November 20-22	NCTM Regional Conference	Edmonton, Alberta
December 4-6	NSTA Western Area Convention	Reno, NV
January 31, 2004	NOMSTA Meeting	NSU Tahlequah, OK
April 1-4, 2004	NSTA National Meeting	Atlanta, GA
April 21-23, 2004	NCTM Annual Meeting	Philadelphia, PA



Northeastern Oklahoma Math and  
Science Teachers Association

**NOMSTA**

Northeastern State University  
College of Math Science and Nursing  
611 North Grand  
Tahlequah, OK 74464-2302

Phone: 918-456-5511 ext. 3819

Fax: 918-458-2325

Email: adams001@nsuok.edu

Newsletter Email: hamr@tahlequah.k12.ok.us

**NOMSTA Web Site**  
**Http://arapaho.nsuok.**  
**edu/~NOMSTA**

**NOMSTA Officers and Board**

President: Timmie Spangler  
President-Elect: Lance Phillips  
Membership Secretary: Stacy Ezell  
Newsletter Editor: Rebekah Ham  
Webmaster: April Adams

**Mathematics Division**

Elementary: Shelly Gantt  
Middle School: Sharon Gleese  
High School: Shiranjini Jeyarajah-Stotts  
College/University: Steven Wilkinson

**Science Division**

Elementary: Kathy Coleman  
Middle School: Renae Shoate  
High School: Cherinell Riley  
College/University: Monica Macklin

**Come to the  
NOMSTA  
Meeting  
January 31, 2004  
NSU Tahlequah  
Campus!**

**Get Involved!**

**Nominate Yourself or Someone Else for a NOMSTA Board Position**

This year we are electing the following positions: **President-Elect (must be science teacher this time), Secretary Treasurer, Elementary Mathematics Division Director, Elementary Science Division Director, High School Mathematics Division Director, and High School Science Division Director.** The election will be at the Annual Meeting. The duties of these offices may be found on the web site: <http://arapaho.nsuok.edu/~NOMSTA>

Nominee's Name: \_\_\_\_\_ Phone: \_\_\_\_\_

Address: \_\_\_\_\_

Nomination is for the following position: \_\_\_\_\_

Attach a brief description of the nominee's qualifications and send it with this form to:

Stacy Ezell, NOMSTA  
Membership Secretary  
Rt. 2, Box 123A  
Haskell, OK 74436