

Science On A Shoestring

for Middle School through High School Teachers

FIFTEEN LABS YOU AND YOUR STUDENTS CAN DO USING EVERYDAY EQUIPMENT AND SUPPLIES.

All of the reagents are relatively safe in the concentrations and amounts used. The labs cover general and physical science, biology and chemistry. Each participant will perform these labs and take home a "starter kit." This course is taught by ASMSA's instructor Dr. Tom Heilman.

The lab topics are:

1. Density of pennies before and after 1982
2. Percent composition of post 1982 pennies
3. Stoichiometry and limiting reactant without much math
4. Modeling DNA to RNA to amino acids
5. Titration of vinegar without expensive glassware
6. Atomic mass of a fictitious element
7. Periodic properties of an "alien" set of elements
8. Using your campus for a nature walk and specimen collection
9. Enzymatic activity of a potato
10. The domino effect – measuring velocity
11. Vitruvian Man – hypothesis development, experimental design, data collection and statistical analysis
12. SunSpots Before Your Eyes
13. The domino effect – measuring velocity
14. Constructing and Comparing Paper Airplanes
15. Human Genetics

The Science On A Shoestring workshop will be held Monday, July 13 through Thursday, July 16, 2009 8:00 a.m.-4:00 p.m.

Non-Profit Org.
U.S. Postage Paid
Permit # 77
Hot Springs
AR 71901

Return Service Requested



Arkansas School for Mathematics, Sciences and the Arts
200 Whittington Avenue • Hot Springs, AR 71901-3408

2009 ASMSA Summer Professional Development Opportunities

FUNDAMENTALS OF CALCULUS

30 HOUR PROFESSIONAL
DEVELOPMENT OPPORTUNITY

BIOTECHNOLOGIES IN THE CLASSROOM

18 HOUR PROFESSIONAL
DEVELOPMENT OPPORTUNITY

SCIENCE ON A SHOESTRING

24 HOUR PROFESSIONAL
DEVELOPMENT OPPORTUNITY

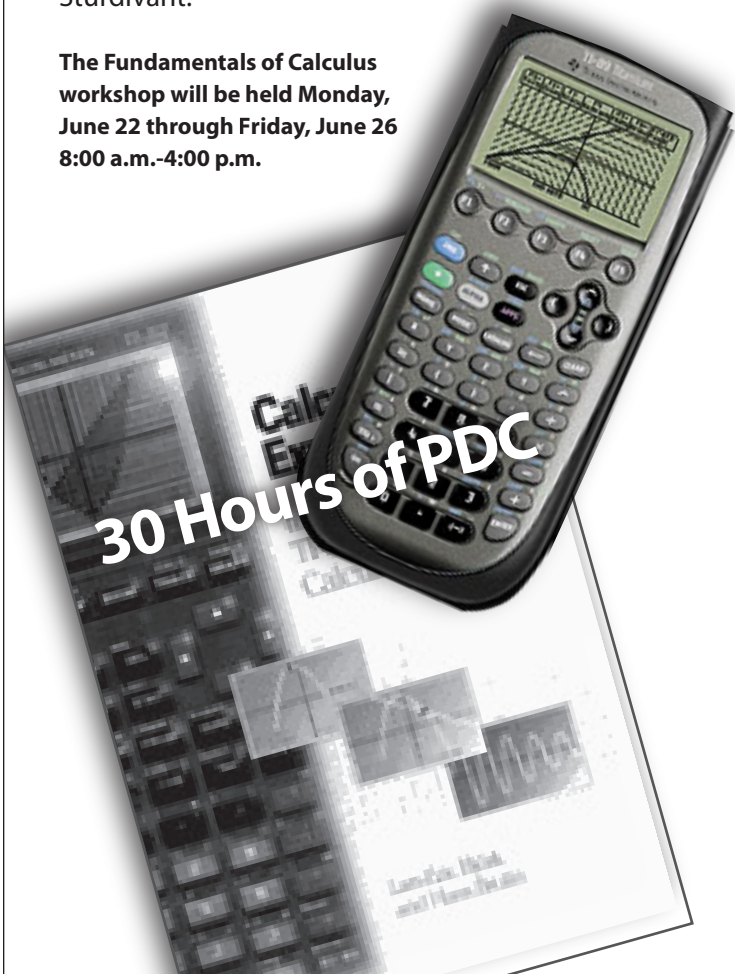


**Professional Development for
Arkansas Teachers**

Fundamentals of Calculus

This course is designed for new calculus teachers who feel they need a refresher in calculus basics. This institute does not satisfy the Arkansas requirement of Advanced Placement teachers attending an Advanced Placement Calculus Summer Institute. Participants will receive a TI-89 Titanium VS Calculator and an AP Calculus w/the TI-89 and TI-89 Titanium Investigations Exploration Book. Participants will be granted 30 hours of Professional Development Credit. Repeated course from summer 2008. Institute will be taught by ASMSA Mathematics Instructor, Mike Sturdivant.

The Fundamentals of Calculus workshop will be held Monday, June 22 through Friday, June 26 8:00 a.m.-4:00 p.m.



Biotechnology Workshop

Biotechnology Workshop: The purpose of this professional development opportunity is for Arkansas Biology teachers to gain exposure to and experience with genetics and immunology concepts through biotechnology labs. Included in the workshops are overview lectures about basic concepts in genetics and immunology as well as introduction to biotechnology techniques that apply to recognizing the differences between individuals at both the DNA and protein levels as well as techniques to identify infectious agents in blood. Included in the workshop is equipment for the biology teachers to take with them so they may be able to implement electrophoresis techniques they learn during the workshop immediately in their classrooms. The value of this professional development opportunity is both the review and introduction of new concepts especially those that are most recent and may be new to the teachers. This course is taught by Dr. Patrycja Krakowiak and Dr. Jon Ruehle and is funded through a grant from the Winthrop Rockefeller Foundation by the Arkansas Science and Technology Authority.

The Biotechnology workshop will be held Monday, June 8 through Wednesday, June 10, 2009 8:00 a.m.-4:00 p.m.

ASMSA Professional Development Registration Form

Sign up for:	Date	Price
<input type="checkbox"/> Calculus	June 22-26	\$300.00
<input type="checkbox"/> Biotechnology Workshop	June 8-10	No Charge*
<input type="checkbox"/> Science On A Shoestring	July 13-16	\$250.00

* Funded through a grant from the Winthrop Rockefeller Foundation by the Arkansas Science and Technology Authority

Dorm room accommodations and breakfasts are available.

- Dorm room & breakfast for Calculus - June 21-25 - \$100.00
- Dorm room & breakfast for Biotechnology - July 7-9 - No Charge*
- Dorm room & breakfast for Science On A Shoestring - July 12-15 - \$80.00

Registration fees and Dorm room fees are non-refundable.

Method of payment:

- Personal check enclosed
- School check enclosed
- PO#

Name

Home Address

City State Zip

Home Phone

Cell Phone

Home Email

School Name

School Address

City State Zip

School Phone

School Email

Registration Deadline - June 1, 2009

Mail to: Arkansas School for Mathematics, Sciences and the Arts
Attn: Melanie Nichols, *Dean of Academic Affairs*
200 Whittington Avenue
Hot Springs, AR 71901-3408