## Registration / Information

Register me for the following Fall Academic Year Workshops:
* Note that some workshops are held on the same date - please register for only one workshop per date.

- ☐ Measurement and Fractions — September 29
- ☐ We're All Downstream — September 29
- ☐ Evolution — October 27
- ☐ Geometry — November 10
- ☐ Maps are Cool! — December 1
- ☐ Hands on Optics — December 1

Name:_____

School:_____

Grade(s) you are teaching in 07-08:_____

- ☐ I teach all subjects
- ☐ I specialize in teaching math
- ☐ I specialize in teaching science

School Address:_____

_____

School Phone: _____

Home Address: _____

_____

Home Phone: _____

E-mail:_____

Do you check your e-mail daily, weekly, or rarely? (Circle one)

The program will be filled on a first come first served basis, with the approval of the teacher's school administration. Applications will be accepted from teachers currently serving Central Virginia public school divisions and private schools. Enrollments are limited.

Questions about the program may be addressed to: Jill Granger, Co-Project Director at 434-381-6166, granger@sbc.edu; Hank Yochum, Co-Project Director at 434 381-6357, hyochum@sbc.edu; Arlene Vinion-Dubiel, Instructional Support Specialist at 434 381-6118, dubiel@sbc.edu; or Pam Simpson, Project Assistant at 434 381-6443, psimpson@sbc.edu.


# Inquiry Approaches to Math and Science

### A Professional Development Program for Central Virginia Teachers of Grades 3-8

### Academic Year Program

## FALL 2007

**www.sxi.sbc.edu**

Sponsored by The State Council of Higher Education for Virginia (SCHEV) through the Federal No Child Left Behind, title IIA, Improving Teacher Quality Initiative

SCHEV
STATE COUNCIL OF HIGHER EDUCATION FOR VIRGINIA
ADVANCING VIRGINIA THROUGH HIGHER EDUCATION

# Project Goals

Our goals include: (1) conveying to participating teachers the "excitement of discovery" through well-planned, hands-on laboratory modules designed to stimulate the inquisitiveness and imagination of their students; (2) helping make science relevant for students by using course modules that apply science to everyday life and to current societal issues, yet are keyed to basic concepts included in the VA SOLs; and (3) spanning a range of grade levels and course subjects, giving students the benefit of on-going exposure to inquiry-based, hands-on science. We believe achievement of these goals will significantly improve science and math SOL test scores.

# Grades 3-8
# Teacher Development Workshops
# Academic Year Program

This is the 9th Professional Workshop for Central Virginia Teachers in Science and Mathematics to be held at Sweet Briar College and sponsored by the State Council of Higher Education for Virginia. The academic year program is designed to introduce teachers to new hands-on ways of doing science and math in the elementary classroom.

# This Year's program

Participants will conduct hands-on experiments that cover key scientific concepts and a broad range of SOLs in grades 3-8. Workshops will be offered in biology, chemistry, physics, and mathematics, as described in this brochure. All activities are based around "real-world" applications of science and math and are delivered through an inquiry-based pedagogy. Participants will learn to interpret and present their data.

One content session will be held each day. Participants will conduct experiments, do activities to learn more about the science or math content area, and analyze data. Workshops will typically begin at 9:00 and end around 3:00 each day with a lunch break around noon.

**Mail the completed registration form to:**

Pam Simpson, SCHEV-NCLB Project Assistant
206 Guion Science Center, Sweet Briar College
Sweet Briar, VA 24595

**OR**

Email your registration information to:

Pam Simpson
psimpson@sbc.edu
**Put "SCHEV REGISTRATION" in the subject line**
Please note:
**E-mail registrations must be complete!**
**A comfirmation e-mail will be returned to you**

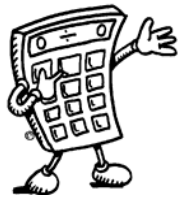
Questions?
WWW.SXI.SBC.EDU

Science and Math clip art used in designing this brochure came from Discovery Education's website http://school.discovery.com/clipart/ and was created by Mark A. Hicks.

# Fall Workshop Descriptions:
# Inquiry Approaches to Math and Science
# Grades 3-8
# Sweet Briar College

**September 29, 2007**
**"U.S. Customary and Metric Measurement Standards to Investigate Fractions, Decimals, and Percents"**
Instructor: Beth Williams

Participants will use measurement devices to compare U.S. customary and metric measurement standards. We will use these measurements to investigate and understand the big ideas of fractions, decimals, and percents. We will also explore addition and subtraction of fractions and decimals.
*SOL Mathematics*: 3.5, 3.6, 3.7, 3.14, 3.15, 4.2, 4.3, 4.4, 4.9, 4.11, 5.2, 5.7, 5.11, 6.1, 6.4



**September 29, 2007**
**"We're All Downstream"**
Instructor: Judy Strang

Hands-on, field-tested, SOL-correlated lessons will help make "watershed" a more concrete and comprehensible concept. Using indoor and outdoor settings, this workshop will showcase activities that help students become more accurate observers of watershed phenomena, better understand visible signs and probable consequences of human impact on watersheds, and recognize the importance of natural resource conservation.
*SOL Science*: 3.1, 3.10, 4.1, 4.8, 5.1, 5.7, 6.1, 6.5, 6.7, 6.9.

**October 27, 2007**
**"From Bacteria to Dinosaurs: How Evolution Shapes Our World"**
Instructor: Janet Steven

Looking for engaging ways to teach biological evolution in the classroom? In this workshop, we will explore active learning activities for teaching natural selection and classification systems. We will cover adaptations of organisms to their environment and interpretation of the fossil record. In addition, we will discuss how evolution is relevant to our lives today.
*SOL Science*: 3.4, 4.7, 5.1, 5.7, LS.1, LS.2, LS.7, LS.8, LS.9

**November 10, 2007**
**"Geometry: The Bridge Between Math and Art"**
Instructor: Steve Wassell

We will investigate a wide range of geometric concepts in two dimensions, touching wherever possible on the geometric ties between art and math from classical Greek times through the 20th century. We will engage in hands-on activities with manipulatives and paper folding.
*SOL Mathematics*: 3.19, 3.20, 4.16, 4.17, 5.14, 5.15, 6.14, 6.16, 7.10, 7.13, 8.8, 8.10.

**December 1, 2007**
**"Maps are Cool! Integrating Math, Science, and Social Studies"**
Instructor: Rebecca Ambers

Maps aren't just for geography class! Students can use maps to develop important math skills, such as making measurements, plotting coordinates, doing unit conversions, and using ratios and angles. They can also use maps to learn about historical events and patterns and to investigate scientific phenomena like earthquakes, volcanoes, and hurricanes. This workshop will focus on fun and synergistic ways to integrate map-related skills into different parts of the curriculum.
*SOL Science*: 4.6, 5.6, 6.1, 6.5, 6.7, ES.3
*SOL Mathematics*: 3.14, 3.19, 4.11, 4.15, 5.13, 6.2, 6.9, 6.13, 7.13, 8.3, 8.6, 8.8

**December 1, 2007**
**"Hands on Optics - Lenses and Refraction"**
Instructor: Hank Yochum

We will use hands-on activities to gain a deeper understanding of reflection and refraction. Participants will construct optical devices such as telescopes, cameras, and projectors. This workshop will provide experience in designing scientific investigations, interpreting results, and communicating results to others.
*SOL Science*: 5.3, PS.9
*SOL Mathematics*: 3.21, 3.22, 4.20

Teachers enrolled in EDU 656 Inquiry Methods in Math and Science will get **priority registration** for ALL of the academic year program workshops.

If you have participated in any of our previous academic year or summer programs, you may still be interested in participating in this year's academic year program. Contact the project director, Jill Granger, to determine the extent of overlap from any previously attended program. All of our previous participants are warmly welcomed back!

## What's Provided

All necessary supplies and materials for the program will be provided. Lunch will be provided at the College for workshop attendees. **There is no cost to Virginia certified 3-8 grade teachers to attend; plus, there is a $60 / day stipend.** All is paid for by the SCHEV-SBC grant. Certificates of participation will be provided upon request and may be used toward recertification as arranged between you and your school system.

## For More Information OR To Register

Questions regarding the Academic Year Program should be addressed to: Jill Granger, Project Director, SCHEV-SBC Professional Development Project, 206 Guion Science Center, Sweet Briar, VA 24595; (434) 381-6166; *granger@sbc.edu*.

To register: Complete the registration form from this brochure and mail it directly to Pam Simpson or e-mail the same information to *psimpson@sbc.edu*. If you register by email, please include **all** information from the registration form.

**Mail Your Registration Form to:**
**Pam Simpson, Project Assistant**
**SCHEV-SBC Professional Development Workshop**
**203 Guion Science Center**
**Sweet Briar College, VA 24595**