

## Registration

**YES! I want to participate in the SCHEV-SBC NCLB program at Sweet Briar**

Name \_\_\_\_\_

School \_\_\_\_\_

Grade(s) You Teach Currently/Near Future \_\_\_\_\_

Mailing information: (give full mailing addresses)

Work \_\_\_\_\_

Home \_\_\_\_\_

Where do you prefer we mail to you? HOME or WORK.  
Circle one.

### Phone and e-mail information:

Work \_\_\_\_\_

Home \_\_\_\_\_

E-Mail address \_\_\_\_\_

Do you check email? Daily, Weekly, or Hardly ever  
Circle one.

**Register me for these SPRING courses during the 2004-2005 school year:**

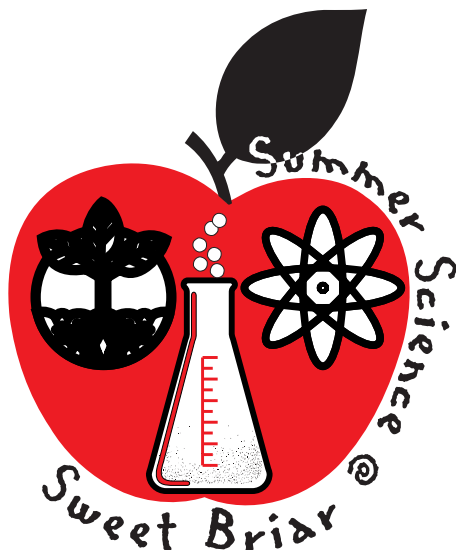
- q January 22, 2005 "The Real Reasons for the Seasons"
- q February 5, 2005 "Recipes for Pi"
- q March 5, 2005 "It's a Small World – Adventures in Microscopy"
- q March 12, 2005 "Algebra: It's Not Just for High School Anymore"
- q March 19, 2005 "Kitchen Science = Food for Your Brain"
- q April 23, 2005 "Our Green Planet: Making Plant Science Fun"

Please mail directly to Jill Granger, 206 Guion, Sweet Briar VA, 24595 **OR e-mail** the same information to [granger@sbc.edu](mailto:granger@sbc.edu)

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## PROJECT GOALS

Our goals include: (1) conveying to participants 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 their students by using course modules that involve applications of 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, so that students have the opportunity to benefit from an on-going exposure to inquiry-based, hands-on science. We believe achievement of these goals will have a very positive impact on science SOL test scores.



## INVESTIGATE AND UNDERSTAND: MATH AND SCIENCE BY INQUIRY

Academic Year Program

2004-2005

SPRING PROGRAM BROCHURE

Sweet Briar College

Sweet Briar, VA

Funding for this Program has been provided by a grant from the State Council for Higher Education of Virginia under the federal No Child Left Behind initiative (SCHEV NCLB) and by Sweet Briar College.

# INVESTIGATE AND UNDERSTAND: MATH AND SCIENCE BY INQUIRY

## ACADEMIC YEAR PROGRAM

This is the 6th 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 summer program was held in June 2004. The academic year program is an additional follow-on activity to extend the learning of the summer participants and also to introduce other teachers to new hands-on ways of doing science and math in the elementary classroom.

## THIS YEAR'S PROGRAM

Participants will conduct hands-on laboratory experiments that cover a broad range of SOLs in grades 3-8. Key concepts will have their foundations in the traditional areas of biology, chemistry, physics, and mathematics – as described in this brochure. All experiments are based around a “real-world” application of science and delivered through an inquiry-based pedagogy. Participants will learn to interpret and present their data.

One lab session will be held each day. Participants will be conducting experiments and learning more about the science content area and data analysis. Workshops will typically begin at 9:00 and end around 3:00 each day with a lunch break around noon.

Summer 2004 workshop participants will get **priority registration** for ALL of the Academic Year program workshops.

If you are a previous summer workshop attendee or if you have participated in any of 2002 or 2003 academic year programs – you may be interested in participating in this year's Academic Year program. You should 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 grade 3-8 teachers to attend;** your registration 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 24505; (434) 381-6166; [granger@sb.edu](mailto:granger@sb.edu). To register: Complete the registration form from this brochure and mail it directly to Dr. Granger **or** e-mail the same information to [granger@sb.edu](mailto:granger@sb.edu). If you register by email, please include all information from the registration form.

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**Mail Your Registration Form to**

**Jill Granger, Project Director**

**SCHEV-SBC Professional Development Workshop**

**206 Guion Science Center**

**Sweet Briar College, VA 24595**

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# **WORKSHOP DESCRIPTIONS: SPRING PROGRAM INVESTIGATE & UNDERSTAND: MATH AND SCIENCE BY INQUIRY SWEET BRIAR COLLEGE**

**“The Real Reasons for the Seasons”**      **January 22, 2005 (snow date Saturday, January 29)**

Instructor: Hank Yochum

This session will focus on motions of the Earth and Sun, causes of night and day, and the causes of Earth's seasons. Teachers will use simple and inexpensive objects to investigate different models for the causes of the seasons. Common misconceptions of the causes of the phases will be addressed. This workshop is the same as the summer workshop from 2004.

**“Recipes for Pi”**      **February 5, 2005 (snow date Saturday, February 12)**

Instructor: Bessie Kirkwood

We'll explore the relationship of the circumference of a circle to its diameter, and the connection between the area of a circle and its radius square, using processes of observing, collecting, organizing data, and interpreting data. Other geometry activities will be included as time permits. SOL's: primarily 6.12. Also 5.9, 5.10, 5, 15, 6.6, 6.11, 6.15, 6.17

**“It's a Small World - Adventures in Microscopy”**      **March 5, 2005**

Instructor: Robin Lee Davies

Come and use Brock Magiscopes to explore the world of the cell. We will prepare and examine slides of plant, animal, algal, fungal and protozoan cells from a variety of readily available sources. We will also investigate how the microscope can be used to teach a variety of science concepts. Borrow the classroom set of these microscopes and explore with your students!

**“Algebra: It's Not Just for High School Anymore”**      **March 12, 2005**

Instructor: Megan Murray

Algebraic thinking needs to begin developing long before children enroll in a standard high school algebra class. In this session we will explore how teachers can help students become algebraic thinkers starting in kindergarten. In particular, participants will see how algebraic thinking is connected to an understanding of basic facts and operations, graphing, and understanding fractions.

**“Kitchen Science = Food for Your Brain”**      **March 19, 2005**

Instructor: Jill Granger

Teachers will learn about simple investigations involving two important biomolecules, fats and sugars. Kitchen type tests will lead us toward a better understanding of our own body chemistry and the food we eat. Materials will come from the FOSS program, sponsored by the Lawrence Hall of Science, and includes cross-curriculum materials. Workshop content is ideally suited for the grade 5-6 curriculum (both physical and life science), but could be adapted for other upper elementary and middle grades.

**“Our Green Planet: Making Plant Science Fun”**      **April 23, 2005**

Instructor: Heather Griscom

In this workshop, we will explore teaching strategies for plant biology in the classroom as well as outside. We will begin by dissecting flowers to learn about plant reproduction and floral vocabulary. Secondly, we will use simple fruit keys and recognition of similarities/differences to teach scientific classification. We will then move outdoors to identify tree species to combine natural history with classification. We will end the workshop by using the collected leaves to create an artistic, botanical library; art and science can meld into one. We will stress the use and importance of plants to humans in each of these modules.

Funding for this Program has been provided by a grant from the State Council for Higher Education of Virginia under the federal No Child Left Behind initiative (SCHEV NCLB) and by Sweet Briar College.

# ACADEMIC YEAR IN-SERVICE PRESENTATIONS

Participants from the SCHEV-SBC Summer Institute “Investigate and Understand: Math and Science by Inquiry” (June 2004) are required to conduct one in-service presentation during one of the academic year workshops.

Teachers who enrolled in the summer workshop for **continuing education** may choose to do their presentation at any of the academic year workshops (except April 23). These presentations should be 10 - 15 minutes in length and should describe the implementation of summer workshop materials in their classroom. The presenter should describe the activity, where and how it was presented to the students, and should provide an evaluation of the impact on student learning. (Follow the general guidelines as given during the summer institute.) The presenter should be prepared to answer questions from the audience. These presentations are **required** of each teacher who is taking the course for continuing education.

Teachers who enrolled in the summer workshop for **graduate credit**, (are enrolled in EDUC 656 course) are **required** to give a final oral presentation. These final presentations will be given on April 23<sup>rd</sup> and also on April 30<sup>th</sup>. More information about the final project assignment and final oral presentation is available on the project website at [www.sxi.sbc.edu](http://www.sxi.sbc.edu). Students enrolled in EDUC 656 **must sign up** for one of these two dates for their final oral presentation.

To schedule your presentation during the Academic Year Workshops – please notify Jill Granger by submitting the form below:

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## SIGN-UP

**In-service presentations during the SCHEV-SBC Academic Year “Investigate and Understand: Math and Science by Inquiry” program at Sweet Briar:**

Name \_\_\_\_\_

**I would like to give my presentation:  
(Give 1<sup>st</sup> and 2<sup>nd</sup> choices please)**

School \_\_\_\_\_

\_\_\_\_\_ **January 22, 2005**

**The best way to contact me during the day is** \_\_\_\_\_

\_\_\_\_\_ **February 5, 2005**

\_\_\_\_\_

\_\_\_\_\_ **March 5, 2005**

\_\_\_\_\_

\_\_\_\_\_ **March 12, 2005**

\_\_\_\_\_

\_\_\_\_\_ **March 19, 2005**

\_\_\_\_\_ **Check here if you are planning NOT to do your presentation (waiving your stipend) this year.**

**EDUC 656 Students:**

\_\_\_\_\_ **April 23**

\_\_\_\_\_ **April 30**

Please mail directly to Jill Granger, 206 Guion, Sweet Briar VA, 24595 **OR e-mail** the same information to [granger@sbcc.edu](mailto:granger@sbcc.edu)

Date received: \_\_\_\_\_

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