

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:

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 term courses :

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

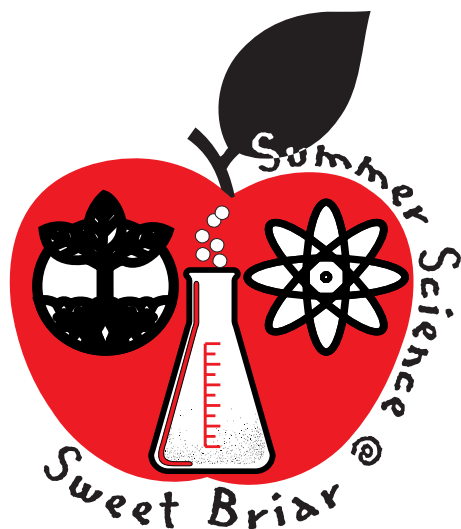
- q February 7, 2004 "The Reasons for the Seasons"
- q February 7, 2004 "Inquire Within"
- q February 21, 2004 "Care of Magical Creatures"
- q February 21, 2004 "Matter Really Matters"
- q March 6, 2004 "Coins and Clocks"
- q March 6, 2004 "The Tide Turns: Seashore Life of Shallow Waters"
- q March 20, 2004 "Digging Archaeology"
- q March 20, 2004 "Using Technology to Introduce Algebraic Concepts to Elementary Grades"
- q April 10, 2004 "Illuminating the Past: Energy and Light"
- q May 8, 2004 "It's a Small World"

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.

FOR MORE INFORMATION

For more information about this project and related project activities, contact the project director Jill Granger at (434) 381-6166, by email at granger@sbc.edu, or by mail at 206 Guion Science Center, Sweet Briar VA 24595.



ESSENTIAL CONCEPTS FOR QUALITY INSTRUCTION: Hands-On Investigations

Academic Year Program

2003-2004

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.

ESSENTIAL CONCEPTS FOR QUALITY INSTRUCTION: HANDS-ON INVESTIGATIONS ACADEMIC YEAR PROGRAM

This is the 5th 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 2003. 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 K-6. Key concepts will have their foundations in the traditional areas of biology, chemistry, physics, and mathematics as well as new courses in archeology and the history of science – 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 participants will get **priority registration** for ALL of the Academic Year program sessions.

If you are a previous summer workshop attendee or if you have participated in any of 2001 or 2002 academic year programs – you may still be eligible and 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 each day in the cafeteria. **There is no cost to Virginia certified K-6 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. 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.

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

February 7, 2004 “The Reasons for the Seasons” (Snow date: February 21, 2004)

Instructor: Hank Yochum

Participants will do hands-on experiments that will lead to an understanding of why there are seasonal changes on the Earth.

February 7, 2004 “Inquire Within” (Snow date: April 3, 2004)

Instructor: Jill Granger

“Inquiry refers to the activities of students in which they develop knowledge and understanding of scientific ideas, as well as an understanding of how scientists study the natural world.” (*National Science Education Standards*) In this workshop we will discuss how to implement inquiry into grade K-6 classrooms while still teaching to a standards driven curriculum. Hands-on inquiry activities will be utilized as examples of open inquiry, guided inquiry, and structured inquiry lessons.

February 21, 2004 “Care of Magical Creatures” (a Frogwarts Academy of Science Workshop) (Snow date: March 13, 2004)

Instructor: Robin Davies

Care of Magical Creatures (a Frogwarts Academy of Science Workshop) will use child- and classroom-friendly critters such as mealworms to address SOL topics in Scientific Investigation, Reasoning and Logic; Life Processes; Living Systems; and Earth Patterns, Cycles and Change for grades K-4.

February 21, 2004 “Matter really matters!”

Instructor: John Beck

Some cool experiments for grades 3-6 that explore densities, chemical changes, phase changes, and the effects of temperature. Some of the experiments can be geared toward the science of detectives!

March 6, 2004 “Coins and Clocks”

Instructor: Bessie Kirkwood

Hands-on activities for developing understanding of time (quantifying time and reading analog clocks) and money (recognizing coins, assigning value to coins, and problem-solving with coins) using AIMS materials. Limit = 16 teachers, grades K-2

March 6, 2004 “The Tide Turns: Seashore life of shallow waters”

Instructor: Jeff Janovetz

This hands-on lab will introduce students to some of the common animals and plants that live in the shallow waters of Virginia's coastline and some of the unique challenges that this environment poses to life. Discussion will explore the reasons for high and low tides and the effects of the tides on the physical environment of the animals and plants. Using readily available sea life, we will then look at some of the structures and behaviors organisms evolved to live in these environments, and set up simple experiments to observe how animals respond to environmental changes.

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WORKSHOP DESCRIPTIONS: SPRING PROGRAM

(Continued)

March 20, 2004 "Digging Archaeology"

Instructor: Lynn Rainville

This workshop introduces teachers to archaeological methods and techniques, using examples of sites located in Virginia. During the workshop we will discuss worksheets that involve students in artifact interpretations, digging techniques, and understanding an antebellum landscape. The workshop will use interactive websites to illustrate concepts and show teachers how to utilize web search engines for teaching purposes. (This program will be similar, but not identical to the Archaeology workshop that was held in October 2003) Limit = 16 teachers, grades K-6, with more emphasis on grade 3-6 SOL topics.

March 20, 2004 "Using Technology to Introduce Algebraic Concepts in the Elementary Grades.

Instructor: Megan Murray

Computers and calculators provide a means for elementary students to access and solve problems that involve algebraic thinking procedures. This workshop will ask teachers to explore a variety of problems. Through these explorations they will discover how technology leads to a deeper understanding of the problems and their solutions. They will also see how the use of technology enables students of varying abilities to all work on fairly complex problems.

April 10, 2004 "Illuminating the Past: Energy and Light"

Instructor: Lynn Laufenberg

This history of science workshop incorporates a series of very simple, hands-on projects for the classroom that demonstrate fundamental discoveries about the nature of atoms, energy and light. Activities will include investigations of refraction, electron transfer, the wavelength properties of visible light, etc. The historical context for each project will also be presented.

May 8, 2004 "It's a Small World"

Instructors: Jill Granger and David Orvos

A discussion and hands-on workshop for teachers – we'll be starting with the fundamental particles of matter and building upward to cells and microorganisms. The class will include a discussion of the periodic table with activities, building models of atoms, molecules, and molecular assemblies important to biological function. We will later look at cells and their components and will compare different cell types. Other microscopic entities - like bacteria, and viruses - will be introduced also. Teachers will gain experience in the use of the Brock microscope. Teachers who complete the workshop will be eligible to borrow a set of 12 Brock microscopes for use in their own classrooms – free of charge. The course will be of particular interest to teachers of grades 3-6, but all interested teachers are invited to register. SOLS which are particularly relevant to the "Small World" are (new science SOL numbers) 3.3, 4.4, 5.4, 5.5, 6.4, 6.5a,b, 6.6a.