

REGISTRATION / INFORMATION

Register me for the following Spring Academic Year Workshops:

** Note that some workshops are held on the same date - please register for only one workshop per date.*

- | | |
|---|--|
| <input type="checkbox"/> Variables
February 16 | <input type="checkbox"/> Maps
March 29 |
| <input type="checkbox"/> Weather
February 23 | <input type="checkbox"/> Force, Motion, Energy
March 29 |
| <input type="checkbox"/> Probability
March 22 | <input type="checkbox"/> Measurement
April 5 |
| <input type="checkbox"/> Water Analysis
March 22 | <input type="checkbox"/> Schoolyard Ecology
April 12 |

Name: _____

School: _____

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

- | | |
|---|--|
| <input type="checkbox"/> I teach all subjects | <input type="checkbox"/> I specialize in teaching math |
| <input type="checkbox"/> I specialize in teaching science | |

School Address: _____

School Phone: _____

Home Address: _____

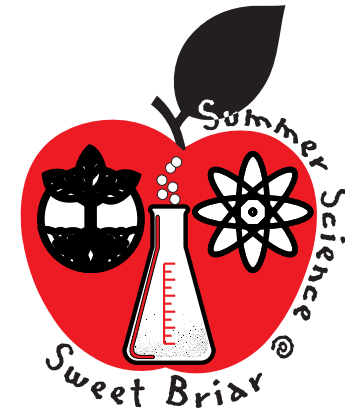
Home Phone: _____

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

SPRING 2008

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



PROJECT GOALS

- (1) To convey 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) To help 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) To span 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 program is designed to introduce teachers to hands-on ways of doing science and math in the elementary classroom.

Workshop participants will conduct experiments that cover key scientific and mathematical concepts linked to a broad range of SOLs in grades 3-8, and they will interpret and present the data they collect. Participants will learn inquiry-based teaching methods and activities that they can implement in the classroom right away.

One content session will be held each day. Workshops typically begin at 9:00 and end around 3:00 each day with a lunch break around noon.

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 you may arrange with your school system to use them toward recertification.

Mail the completed registration form to:

Pam Simpson, Project Assistant
SCHEV-SBC Professional Development Workshop
203 Guion Science Center, Sweet Briar College
Sweet Briar, VA 24595

OR

Email your registration information to:

psimpson@sbc.edu

Put “SCHEV REGISTRATION” in the subject line

Please note:

E-mail registrations must be complete!

A confirmation 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.

**SPRING WORKSHOP DESCRIPTIONS:
INQUIRY APPROACHES TO MATH AND SCIENCE
GRADES 3-8
SWEET BRIAR COLLEGE**

February 16, 2008: “Variables in Scientific Investigation”

Instructor: Jill Granger

We will analyze the variable components of experimentation as presented in several different types of simple, fun investigations. Investigations will touch on multiple science content topics, including simple machines and floating/sinking/density. The workshop includes cross-curriculum materials (from the Lawrence Hall of Science FOSS program) to connect the science unit to other subjects. In-process and summative assessments appropriate for the evaluation of student inquiry will also be presented.

SOL Science: 3.1, 3.2, 3.3, 4.1, 4.2, 5.1, 6.1, PS.1

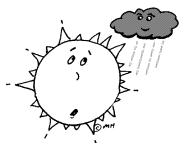
SOL Mathematics: 4.20, 5.18, 5.19, 6.18, 7.17, 7.18, 8.12, 8.18

February 23, 2008: “Weather”

Instructor: Robin Davies

This workshop will include study of weather phenomena and the forces responsible for weather patterns as well as construction of simple instruments for making weather measurements.

SOL Science: 3.1, 3.11, 4.1, 4.6, 5.1, 6.1, 6.3, 6.5, 6.6, LS.1, PS.1, PS.7

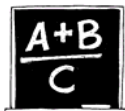


March 22, 2008: “Experiencing Probability”

Instructor: Steve Wassell

This workshop will introduce teachers to fun and accessible activities for exploring probability with grades 3-8. We will discuss basic principles for finding theoretical probabilities, and we will compare experimental probabilities from in-class activities. As we will see, experimental results will exhibit variation but validate theoretical probabilities in the long run. Essentially all of the Probability (though not the Statistics) Standards of Learning for Grades 3 through 8 will be involved.

SOL Mathematics: 3.23, 4.19, 5.17, 6.20, 7.14, 7.15, 8.11



March 22, 2008: “Water Analysis: Matter, Measurement, and Graphing”

Instructor: Rob Granger

Limited to 6 participants, grades 6-8 teachers only.

This workshop will include investigations in water analysis that are engaging to students in a variety of contexts. Teachers will test and analyze water samples using a simple, hand-held probe, the PASCO Xplorer GLX. We will analyze the data we collect using grade-appropriate techniques that address multiple math standards. In addition to basic concepts in science (pH, solubility, conductivity), topics explored can be used to study environmental issues such as biological oxygen demand, thermoclines, and stream flow.

The probes will be available to teachers for use in the classroom supported by the Instructional Support Specialist.

SOL Science: 6.1, 6.5, 6.7, LS.1, LS.4, LS.7, LS.12

SOL Mathematics: 6.18, 7.5, 7.17, 7.18, 8.12



March 29, 2008: “Fun and Easy Ways to Use Computers to Work with Maps”

Instructor: Rebecca Ambers



The purpose of this workshop is to introduce teachers to easy-to-use computer tools they can use to integrate maps and map skills into their classes across the curriculum.

We will discuss the many uses of geographic information systems (GIS) and get hands-on computer experience working with mapping websites and free software programs. Learn about the range of map resources on the web, and find out how fun and easy it is for you and your students to create and use customized maps!

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

March 29, 2008: “Learning about Force, Motion, and Energy by Graphing: Experiments with Hovercrafts and Hot Wheels”

Instructor: Hank Yochum

By doing hands-on experiments with a small single-person hovercraft and hot wheels cars and tracks (both available for teachers to borrow during the academic year), participants will gain a better understanding of the concepts of position, speed, acceleration, force, kinetic energy, and friction. Participants will gain experience in data collection and data analysis that can be used for many other experiments. Emphasis will be placed on the mathematical skills necessary for data analysis.

SOL Science: 4.1 and 4.2

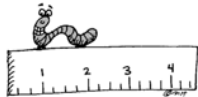
SOL Mathematics: 3.21, 3.22, 4.20

April 5, 2008: “Building Measurement Understanding in the Classroom”

Instructor: Beth Williams

Meaningful measurement and estimation depends on student familiarity with the units being used. Participants in this workshop will spend a day using U.S. customary and metric units of measurement to investigate length, weight/mass, liquid volume, and area. We will also explore and estimate conversions between units in each system.

SOL: to be announced



April 12, 2008: “Schoolyard Ecology”

Instructor: Linda Fink



How can you establish a long-term, inquiry-based ecology project on your school grounds? You will be introduced to observational and manipulative projects that your students can carry out independently or in groups, during or outside of class, over time periods ranging from several weeks to many years. We will examine questions appropriate to rural, suburban and urban schools, focusing on plants, vertebrates and invertebrates. We will address such topics as biodiversity, seasonality and climate change, species interactions, animal behavior, and human influences on natural environments. Before the workshop, you will fill out a questionnaire about your schoolyard.



SOL Science: 3.1, 3.4-3.8, 3.10, 4.1, 4.4, 4.5, 5.1, 5.5, 6.1, 6.7, 6.9, Bio.1, Bio.5, Bio.7, Bio.8, Bio.9

CONTINUING SUPPORT

Arlene Vinion-Dubiel, the Instructional Support Specialist (ISS), provides continuing support to participating teachers throughout the school year. She helps plan activities, answers conceptual and practical questions, provides equipment and training in its use, and works alongside teachers in the classroom. Help is only a phone call away!

REGISTRATION INFORMATION

Complete the registration form on the back of 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.

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

All of our previous participants are warmly welcomed back!

If you have participated in any of our previous academic year or summer programs, and you are interested in participating in this year’s program, contact the project director, Jill Granger, to determine the extent of overlap from any previously attended program.

Address **questions** about the Academic Year Program to:

Jill Granger, Project Director, SCHEV-SBC Professional Development Project, 206 Guion Science Center; Sweet Briar, VA 24595; (434) 381-6166; granger@sbc.edu

MAIL YOUR REGISTRATION FORM TO:

Pam Simpson, Project Assistant
SCHEV-SBC Professional Development Workshop
203 Guion Science Center
Sweet Briar College, VA 24595