

Science Academy
Homeschool Science Classes
2009 – 2010

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SCIENCE Resources

Course Descriptions

Senior Biology

Grades 10-12

Senior Biology is a collection of three half-credit courses, each of which explores an aspect of biology at a more sophisticated level than a first-year biology course. Students may choose one, two, or all three courses. Note that biochemistry, offered for 3 weeks in September, is a no-credit, tuition-free prerequisite for any of the three courses.

Day / Time: Wednesdays, 9:30 a.m. to 11:45 a.m.

Class Schedule: Sept. 9 - May 26, with breaks for Thanksgiving, Christmas/New Year, and Easter

Class Location: Bethany Collegiate Church, Route 1 & Concord Road, Havertown, PA

Class Format: Each class will consist of 45-60 minutes of review followed by a lab. Between classes, students are expected to read course material and complete lab write-ups and other daily assignments on their own. Take-home tests will be given monthly.

Pre-requisite: Documented completion (with grade C or better) of both high-school biology and high-school chemistry.

Other Requirements: Students must have regular access to email and the Internet.

Tuition: \$200 per course; includes all books and lab fees.

Prerequisite:

Biochemistry (Tuition: \$0 / Credit: 0)

Textbook: Internet resource

Topics Covered: Carbon, water, biological macromolecules, cells

Class Dates: September 9 – 23 (3 weeks)

Course details:

Genetics (Tuition: \$200 / Credit: 0.5)

Textbook: Internet resource

Topics Covered: Mitosis/meiosis, Mendelian genetics, chromosomes, DNA, translation, prokaryotic & eukaryotic genetics, DNA technology & genomics

Class Dates: September 30 – December 2 (9 classes – includes 1-week Thanksgiving break)

Human Anatomy & Physiology (Tuition: \$200 / Credit: 0.5)

Textbook: *Essentials of Human Anatomy & Physiology* (provided)

Systems Covered: Skin, skeletal, muscular, nervous, endocrine, cardiovascular, lymphatic, immune, respiratory, digestive, and urinary.

Class Dates: January 6 – March 24 (10 classes – includes 2-week science fair break)

Forensic Science (Tuition: \$200 / Credit: 0.5)

Textbook: *Forensic Science* (provided)

Topics Covered: Properties of matter, blood spatter, drugs, DNA, trace evidence, fingerprints ...

Class Dates: April 7 – May 26 (8 classes)

Earth Science

Grades 7-10

Two levels are available, depending on the age and ability of the student:

Earth science lab (for grades 7-9) consists of a weekly lab and a practical lab exam at the end of each semester. Students are expected to do readings on their own using book(s) of their own choosing and complete a written lab report each week. (Credit: 0.5)

High-school earth science (grades 9-10; advanced 8th graders also accepted) is a full course, with homework and take-home exams in addition to the weekly lab work mentioned above. A high-school earth science textbook (*Modern Earth Science*) will be provided for reading and written assignments. (Credit: 1.0)

Day / Time: Mondays, 10:30 a.m. to 12:00 p.m.

Class Schedule: Sept. 14 to Dec. 7 / Feb. 22 to May 24, with holiday breaks

Class Location: Bethany Collegiate Church, Route 1 & Concord Road, Havertown, PA

Class Format: Each class will consist of 30-45 minutes of review followed by a lab.

Topics Covered: Plate tectonics, earthquakes, volcanoes; rocks & minerals; erosion; atmosphere, weather, climate; astronomy (including moon rocks)

Tuition: Earth science lab (lab only): \$180; includes lab fees.

High-school earth science (full course): \$380; includes book and lab fees.

Moon Rocks

Grades 4-10

Moon Rocks, included in both earth science options, will also be offered as a 6-week, stand-alone class in April & May for students who are interested in that course only. Details coming soon.

Instructor

Lisa Swieson received her BA in biology from the University of Pennsylvania in 1987. She has been homeschooling since 1995 and has been teaching music and science classes to homeschooled students since 1998. She is the founder and director of the Greater Philadelphia Homeschool Science Fair. Lisa also teaches science at Cornerstone High School.

Mrs. Swieson can be contacted during the week by phone or by email for help with assignments.

Registration / Payment Information

To register, complete the attached forms and submit them with a non-refundable \$40 registration fee. (Note that registration fee is a per-student fee **in addition to** the tuition.) Early registration fee is \$20 if received **by July 30**.

If the class you have chosen is full, you will have the option of selecting a different class or of putting your child on the waiting list. (Yes, we do sometimes get last-minute cancellations!)

One-half of tuition is due August 31. Tuition balance is due January 31.

Make check payable to "SCIENCE Resources" and send to:
Lisa Swieson, 210 Lindbergh Avenue, Broomall, PA 19008

Tuition and fees are not refundable after classes have started. Only wait-listed students who are never enrolled in a class can receive a refund of their registration fees.

This registration packet is also available online at www.academy.science-resources.org.

Class sizes are limited, so register early!

Financial aid is available.

For More Information

Contact Lisa Swieson – 610.355.9174 – LSwieson@science-resources.org
or visit www.science-resources.org

Lab Safety in Science Academy Classes

Lab safety procedures must be followed during every lab. Students who repeatedly violate these guidelines could be suspended from class with no refund. Please read before registering for classes.

Getting Ready for Lab:

Do not wear:

- Open-toed shoes (a.k.a. sandals)
- Loose / baggy clothing
- Dangling necklaces or bracelets
- Contact lenses

Long hair must be tied back.

Do not use hairspray, mousse, gel, or any other flammable hair products on days when an open flame will be used.

Study all procedures before starting and ask questions if you don't understand any part of the procedure.

Do not begin any activity until directed to do so.

During Lab:

Wear safety glasses/goggles at all times. Gloves and an apron may be necessary for some labs, too.

Use lab equipment for its intended purpose only and in the manner instructed.

Keep your hands away from your face and mouth while working in the lab.

No eating, drinking, or chewing gum.

No horseplay or practical jokes.

Read chemical labels very carefully, before measuring the chemical.

Do not taste, touch, or smell any chemical or substance unless instructed to do so by the teacher.

If instructed to smell a chemical, hold the container several inches away from your nose and fan vapors toward your nose.

Work only on assigned procedures; don't perform unapproved procedures.

When heating or rinsing a container (like a test tube), point it away from yourself and others.

Some labs will involve heat. Remember, hot glassware looks just like cold glassware, so handle all glassware carefully.

Turn off all heat sources when not in use, and never leave them unattended. Keep all combustible material (like clothing, hair, or papers) away from open flames.

Notify the instructor immediately if there is any accident: fire, broken glass, injury, spill, etc. Clean up all spills immediately.

After Lab:

Clean all equipment and return items to their proper location.

Dispose of all materials properly; don't pour chemicals down the drain unless instructed to do so.

Do not return used chemicals to the reagent bottle. This could contaminate the reagents.

Wash your hands thoroughly with soap and warm water before removing your goggles.

Do not take any chemicals home with you.

Student, please sign and return this sheet with Registration Form. Keep a copy for yourself.

I have read and will follow these safety guidelines during lab: _____

SCIENCE Academy Registration Form (2009-2010)

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Family Information

Parents' Names: _____

Mailing Address: _____

Parents' Email Address: _____ Phone #: _____

Student Information / Course Selection

Student Name: _____ Grade: _____

Student Email Address (if different from parents'): _____

Genetics* (\$200) **Anatomy & Physiology*** (\$200) **Forensic Science*** (\$200)

Earth Science Lab (\$180) **High-School Earth Science** (\$380)

Student Name: _____ Grade: _____

Student Email Address (if different from parents'): _____

Genetics* (\$200) **Anatomy & Physiology*** (\$200) **Forensic Science*** (\$200)

Earth Science Lab (\$180) **High-School Earth Science** (\$380)

*This course includes biochemistry. Please include documentation of completion of high-school biology & chemistry if these classes were not taken through Science Resources.

Release

I, _____, give permission for the child(ren) named above to participate in the science class(es) indicated above. My child(ren) and I have read the attached safety sheet and agree to follow the safety guidelines to the best of our ability. We realize that repeated warnings about breaking these safety rules may result in suspension from class and that, in this case, tuition and fees would not be returned.

I agree to hold SCIENCE Resources and its instructors blameless in the event of any injury that may occur during class for the duration of this course.

I also attest that for the 2009-2010 school year, the child(ren) named above is/are either:

in compliance with the PA Home Education Law, or enrolled in a cyber charter school.

Signed: _____ Date: _____

During class time, I can be reached at this number: _____

Alternate emergency contact: _____ Phone number: _____

Fee Schedule

Registration fee (\$40) is due with registration. **Early registration fee:** \$20 (if registered by July 30)

One-half of tuition is due August 31. Tuition balance is due January 31.

Registration fee is not refundable. Tuition and fees are not refundable after classes have started.

Total deposit enclosed: \$ _____