

Science Academy
Homeschool Science Classes
2008 – 2009

Sponsored by
SCIENCE Resources

Course Descriptions

High-School Physics

Grades 9-12

This physics course is appropriate for all college-bound students, especially those planning to major in science or engineering. Students should be motivated and willing to work hard. Students will gain an understanding of basic principles and apply math skills to the solution of physics problems. Weekly labs will give students hands-on opportunities to apply concepts learned.

Instructor: Lisa Swieson

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

Class Schedule: Sept. 10 - May 27, with breaks for Thanksgiving, Christmas/New Year, and Easter

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

Textbook: *Physics: Principles and Problems* (Glencoe McGraw-Hill, ©2002) and *Physics Lab Manual*

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 (approximately two sections per week) and complete lab write-ups and other daily assignments on their own. Take-home tests will be given monthly.

Topics Covered: Motion, forces & vectors, energy, sound, light, electricity, and magnetism

Other Requirements: Students must have a scientific calculator (TI-84 Plus recommended if you need to buy one) and regular access to email. A complete supplies list will be sent at registration.

Choose General Physics or Honors Physics (classes meet concurrently).

General Physics

For any student interested in physics.

Co-requisite: All students must be taking Algebra II or higher during the 2008-2009 school year

Tuition & Fees: \$500 (\$320 tuition + \$40 registration fee + \$40 lab fee + \$100 book fee)

Honors Physics

This course differs from general physics in that it relies more heavily on good math skills, topics will be covered in greater depth, and assignments will be of greater length and complexity. Students will also be required to conduct an experiment in a field of physics or engineering (including writing a research paper) and present it to the class and at their county science fair. To accommodate the extra workload, honors physics students will have an extra 45-minute class every 2 or 3 weeks, to be scheduled after registration is complete.

Prerequisite: Documented completion of Algebra II or trigonometry

Tuition & Fees: \$530 (\$350 tuition + \$40 registration fee + \$40 lab fee + \$100 book fee)

Physical science consists of one semester of chemistry and one semester of physics and is appropriate for any middle-school student. Students will gain basic study skills as well as lab skills that will serve them well in higher-level science courses. Weekly labs will give students hands-on opportunities to investigate new principles and to apply concepts learned.

Instructor: Lisa Swieson

Day / Time: Mondays, 9:30 to 11:00 a.m.

Class Schedule: Sept. 8 to Dec. 8 / Feb. 23 to May 18, with holiday breaks

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

Textbook: *Physical Science* (Holt Science & Technology, ©2005)

Class Format: Each class will consist of 30-45 minutes of review followed by a lab. Between classes, students are expected to read course material (approx. 14-20 pages weekly), complete homework assignments and lab write-ups, and prepare for labs on their own. Take-home tests will be given monthly.

Topics Covered: Motion & forces; work, machines, & energy; waves, sounds & light, the atom, matter, elements & compounds, chemical reactions, atomic energy

Tuition & Fees: \$350 (\$200 tuition + \$40 registration fee + \$30 lab fee + \$80 book fee)

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.

When you receive notice of your child's acceptance into class, lab fees and book fees will become due. 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 (2008-2009)

Sponsored by
SCIENCE Resources

Family Information

Parents' Names: _____

Mailing Address: _____

Parents' Email Address: _____ Phone #: _____

Student Information / Course Selection

Student Name: _____ Grade: _____

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

General Physics (grades 9-12) **Honors Physics** (grades 9-12)*

Physical Science (grades 6-8)

Student Name: _____ Grade: _____

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

General Physics (grades 9-12) **Honors Physics** (grades 10-12)*

Physical Science (grades 6-8)

*If registering for honors physics, please include documentation of completion of Algebra II.

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 2008-2009 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 June 30)

Lab fees and book fees are due upon acceptance. (Physics: \$140, Physical Science: \$110)

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: \$ _____