Free Resources for Teachers

Essay Contest: 7th & 8th grade AND High School:

PSBR's Annual Essay Contest recognizes students who demonstrate a superior understanding of bioscience research and the appropriate use of animals in biomedical research, and who can artfully communicate that understanding in writing. The essay contest is free to enter and consists of cash prizes. Winners, their parents, and teacher will be invited to attend PSBR's annual awards dinner at the Villanova Conference Center in Radnor, PA (usually held in May). Look for the essay announcement on the PSBR website this September at www.psbr.org.

Poster Contest: K-12th grade

PSBR's Annual Poster Contest recognizes students who demonstrate an artful way of communicating how animal research benefits our society to their peers. All students in grades K-12 are eligible to participate. The contest is free to enter and winners will be featured in an 18-month calendar! Winners, their parents, and teacher will be invited to attend PSBR's annual awards dinner at the Villanova Conference Center in Radnor, PA (usually held on May). Look for the poster announcement on the PSBR website this September at www.psbr.org.

The Great Grow Along:

Audience: Out of the box: Grades 1-6 / Tailored: Grades K-12

The Great Grow Along brings together the scientific method and nutrition concepts in a fun and exciting six-week, educational program. Through an animal feeding project, using live lab rats, students witness the effect of nutrition on growth and are challenged to reflect on their own food behaviors.

PSBR provides the "kit" which includes the teacher's manual, student handouts (including data log sheets, nutritional information, etc.) and a DVD. PSBR coordinates the donation of two rats from a purpose bred rodent vendor and provides cages, water bottles, and food dishes. Participants are responsible for providing food, bedding, and adopting out the rats at the end of the study. Classroom speakers are provided by request. Topics include: basic animal care, how animals help us, biomedical research (including alternatives to using animals) and more! Email: psbr@psbr.org

This program was developed by the Dairy Council of the Upper Midwest

Interactive Webinars:

Bring biomedical research into your classroom! PSBR provides FREE interactive webinars right to your classroom! All you need is a computer with a microphone and a webcam...we do the rest! Students will be able to interact with the speaker through Q&A, discussions, and even some activities.

Classroom Visits/STEM Events:

PSBR visits high school, middle school, and elementary school classrooms. We also visit colleges including undergraduate and graduate level classrooms. Popular Topics include: Biomedical Research and the Use of Animals; Careers in Laboratory Animal Science; Animals in our Society. All presentations are tailored for the age-level, class time, and the topic requested.

PSBR attends and presents at school career fairs/days by request. We can also present general assemblies for a wide audience.

Student Workshops

Student Science Literacy Workshop:

Biomedical research continues to make amazing advances in alleviating human and animal disease and suffering. This workshop has multiple objectives:

- Increase awareness of the benefits (to both humans and animals) of the use of animals in biomedical research.
- Increase understanding of the humane and responsible use of animals in research.
- Increase student awareness of the many possible science and biomedical career options.
- Provide participants the opportunity to interact with science.

This workshop includes presentations and interactive discussions with scientists and veterinarians, a tour of laboratory and animal housing facilities, and materials to bring back to the classroom.

Teacher Workshops

Rx for Science Literacy:

The *What, Where, How and Why of Health Science Research* curriculum manual incorporates background information, lesson plans, handouts and activities to assist teachers in the classroom. Developed by a science teacher with assistance from science and education experts, the manual captures the complex research process in an easy-to-follow, easy-to-use format. Whether you use one unit, or the entire manual, you'll have the information you need at your fingertips.

The Science and Ethics of Animal Research:

Explore the scientific and ethical implications of animal research using hands-on, engaging activities. Receive the entire unit free on CD and complied in a binder. This session includes an overview of animal research and may include presentations from a scientist, a veterinarian, and tours through research laboratories and animal housing facilities. Participants will receive practical strategies for managing bioethical discussions related to animal research and an overview of the scientific aspects of biomedical research.

These materials were developed by the Northwest Association for Biomedical Research (www.nwabr.org) in conjunction with classroom teachers, ethicists, and scientific researchers and were made possible by a NIH Science Education Partnership Award grant. The session addresses National Life Science Content Standard F, Science in Personal and Social Perspectives, which indicates that all students should develop understanding of science and technology in local, national, and global challenges.

The Science and Ethics of Stem Cell Research:

Explore the scientific and ethical implications of embryonic stem cell research using hands-on, engaging activities from our popular curriculum. Receive the unit free on CD and complied in a binder. This session provides an overview of our popular resource on stem cell science and ethics geared towards secondary science classrooms. Participants will receive practical strategies for managing bioethical discussions related to stem cells and an overview of scientific aspects of stem cell biology.

The unit begins with a laboratory examination of planaria as a model organism for understanding stem cell biology. It provides engaging activities that highlight early embryonic development and compare and contrast different types of stem cells using modeling clay. Additional activities focus on the bioethical dimensions of stem cell research, including a case study on the use of excess in-vitro fertilized eggs and a group activity discussing the variety of positions held by different stakeholders in the stem cell debate. A Socratic Seminar allows students to discuss the role of public funding for stem cell research. The culminating assessment provides an opportunity for students to either prepare a letter to the President's Bioethics Commission or propose a grant to fund research for a specific disease or disorder.

These materials were developed in conjunction with classroom teachers, ethicists, and scientific researchers and were made possible by a NIH Science Education Partnership Award grant. The session addresses National Life Science Content Standard F, Science in Personal and Social Perspectives, which indicates that all students should develop understanding of science and technology in local, national, and global challenges.

The Science and Ethics of HIV Vaccine Research:

Engage students in thinking about scientific and ethical issues related to HIV vaccine trials and global health. Receive an NIH-funded 5-lesson unit on CD and compiled in a binder. This workshop introduces a standards-based curriculum unit that brings issues related to the science and ethics of HIV vaccine trials into high school classrooms.

The lessons included in the unit address student misconceptions about HIV and vaccine trials, examine HIV structural biology, and explore vaccine types. Using historical case studies, students develop ethical principles to guide human research and then compare them to existing standards. A hands-on activity encourages students to think about the allocation of health resources, cultural differences, and other factors impacting HIV research globally. The culminating assessment asks students to create a vaccine strategy using their understanding of HIV and propose a research protocol for testing. The curriculum provides both sound scientific information and tools for well-considered ethical reasoning.

These materials were developed by classroom teachers in conjunction with scientists, ethicists and partners at the University of Washington (School of Education). Funding was provided by a NIH Science Education Partnership Award grant.

Educational Materials

**All materials are provided *FREE* upon request. Fill out our online request form or email psbr@psbr.org

Check out our website for a complete list of available resources:
www.psbr.org > Resources > For Teachers > Free Materials Request

Accept the Challenge to Care (DVD):

This 15-minute video explores the variety of careers in the field of laboratory animal science through interviews with professionals within the field. It also introduces the audience to the benefits humans and animals receive from the use of the animals in medical research. The target audience of the video is high school students who are exploring possible career paths, yet junior high and even college students will benefit from its contents.

Animal Roles in Medical Discoveries:

A poster that lists the Nobel Prizes for Medicine and Physiology awarded since 1901 and shows the role animals have played in these important discoveries.

Careers in Biomedical Research:

A brochure that describes the various career paths within the biomedical field; from research scientists to technicians to professionals involved in animal transportation and housing. Learn about the many career opportunities and the education needed to enter the different careers.

Caring for Animals - A Guide to Animals in the Classroom:

This booklet provides information for teachers and students about the benefits of having animals in the classroom and issues that may be involved with caring for these animals. Specific information is provided about caring for 9 species that are commonly found in classrooms. Signs of pain and distress and common diseases are also discussed.

Fact vs. Myth: The Essential Need for Animals in Medical Research:

A brochure developed by the Foundation for Biomedical Research that provides up-to-date answers to common misconceptions about animal research. It also refutes the major claims of the anti-research element of the animal rights movement.

Living Laboratories (2-sided poster):

A double sided poster featuring a sampling of the wide variety of living laboratories that scientists are using to advance human and animal health. From bacterium to mice and rats, these model organisms are dispensable to science and the advancement of medicine. The back side features descriptions of each model organism.

Proud Achievements of Animal Research:

A brochure developed by the Foundation for Biomedical Research. It focuses on all the wonderful things that animal research has contributed to society today, and warns of the problems that would be created if animal research were stopped. The brochure also gives a short chronological list of major medical breakthroughs utilizing animal research.

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Pennsylvania Society for Biomedical Research

Species Sheets:

Set of four reference sheets detailing the contributions of different species to specific research advances. Set includes a sheet on rats and mice, cats and dogs, non-human primates, and other animals.

The Importance of Being a Mouse:

An illustrated, educational story book for children ages 8-12. It explains the important role of lab animals in medical research and discovery.

The Lucky Puppy *(Coloring book for 6 to 9 year olds):*

This 20-page coloring book was the first in the nation to describe the process and excitement of scientific research and to explore the role of animals in this process. It tells the story of a brother and sister who take their sick puppy to a veterinarian. The veterinarian explains to the children how research enables him to choose the correct medicine to make the puppy well. *The Lucky Puppy* includes activities and puzzles related to the storyline and is suitable for classroom or home use.

Use of Animals in Biomedical Research - Understanding the Issues:

A two page brochure detailing why we need biomedical research, why animals are used, benefits from animal research, and the animal rights movement.

Veterinarians Speaking for Research (DVD):

Hear from veterinarians on the front lines of research, take a tour through an animal research facility, and learn how current research is improving medical care for humans and animals.

Why More Veterinary Technicians are Choosing Laboratory Animal Science:

A brochure explaining why veterinary technicians around the country have chosen a career path in laboratory animal science. Laboratory animal technicians are an essential part of a research team and provide compassionate attention and care to research animals. This brochure tells first hand experiences of why people around the country chose a career in laboratory animal science.

What's the Point of Bioscience Research? *(Comic book for 10 to 15 year olds):*

This 20-page comic book speaks directly to adolescents about the relevance and importance of bioscience research and product testing to their lives. The comic book tells a story of teens that come to understand- through injury or illness – the significance of scientific research.

Additional Free Resources about Biomedical Research

Americans for Medical Progress Educational Foundation (AMP): www.amprogress.org/
Animal Testing Perspectives: http://animaltestingperspectives.org/
Foundation for Biomedical Research (FBR): www.fbresearch.org/
Kids 4 Research: http://www.kids4research.org/
Speaking of Research: http://speakingofresearch.com/
States United for Biomedical Research (SUBR): http://www.statesforbiomed.org
Understanding Animal Research: http://www.understandinganimalresearch.org.uk/
Whyville: http://www.whyville.net/smmk/nice