

GUIDELINES FOR Behavioral Projects with Nonhuman Animals in Schools (K–12)

AUGUST 2024

Every day, new scientific discoveries help us better understand how and why humans, as well as other animals, behave as we do. The knowledge that we obtain from behavioral research informs diverse areas of study, from the treatment of human behavioral disorders and drug addiction to stress management and public health policy, from conservation biology and pest control to gerontology and neonatal care. Nonhuman animals play an essential role in this research. Indeed, without nonhuman animal research, much of the work in these areas would come to a complete standstill and thus increase the risk for poor health outcomes for many people, as well as domesticated animals and wild species.

Today, in classrooms across the country, many elementary and secondary school students participate in demonstrations and research projects with nonhuman animals. The primary purpose of these activities is educational. That is, they are intended to teach students the principles of scientific research, to enable students to evaluate prior claims or assumptions about behavior, and to educate students on the importance of humane use of nonhuman animals in the generation of knowledge in the life sciences. In an age in which scientific literacy is increasingly threatened by science denial and the promotion of false information, instilling in students a deep understanding of the critical role that science plays across all of humanity's truth-seeking endeavors has never been more important. Early student experiences in nonhuman animal research projects provide an environment that encourages original thought, critical thinking, evidence-based claims, and problem-solving skills, all of which are critical elements of research and application in the life sciences that promote being an informed citizen of the world.

Of course, with the decision to use live animals for teaching and research purposes comes a responsibility to care humanely for them and to minimize pain or discomfort whenever possible. Working with research animals is a privilege, and our society has developed important rules and guidelines to ensure that these animals are treated humanely. For example, the use of vertebrate animals in teaching and research at colleges and universities must comply with strict U.S. government regulations set forth in the Animal Welfare Act (1966) and/or the Public Health Service Policy on Humane Care and Use of Laboratory Animals (2015), as well as the guidelines found in the *Guide for the Care and Use of Laboratory Animals* (National Research Council, 2011). Likewise, projects in secondary schools that are intended for publication or science fair

exhibition must comply with the requirement of the journal or fair sponsor (e.g., the Society for Science International Science and Engineering Fair), which relies on these same government standards. By following these rules and guidelines, researchers both ensure that animals are treated humanely and safeguard the continued use of animals in important behavioral research.

Because many psychologists conduct animal research, the American Psychological Association has established the Committee on Animal Research and Ethics (CARE), a committee whose mission is to help safeguard responsible research with nonhuman animals. In response to this charge—and in the hope that all professional educators help protect the welfare of nonhuman animals used in research and teaching—CARE has developed guidelines, described below, for the use of nonhuman vertebrate animals in behavioral projects in K-12 schools. These guidelines have been derived from the rules and regulations mandated by the federal government (U.S. Public Health Service, 2015) as well as APA (2022) guidelines for nonhuman animal research in colleges and universities across the country, and they have as their basis important ethical principles that safeguard the humane treatment of nonhuman animals (APA, 2017). CARE recommends that these guidelines be followed any time animals are used in the classroom. Although these guidelines reflect current professional requirements and standards regarding the ethical treatment of nonhuman animals in research or classroom settings in the United States, states and districts may vary in their specific policies and rules. This means that teachers and students must be aware of those requirements when using these guidelines. **It is important to recognize that this document constitutes guidelines, meaning pronouncements that support or recommend, but cannot mandate, specific approaches or actions.** Guidelines differ from what are sometimes called standards in that standards may be considered mandatory and may be accompanied by an enforcement mechanism. Instead, this document is intended to be aspirational in intent, and to facilitate and assist the activity addressed; it is not applicable to every situation. Finally, it is not intended to take precedence over the judgment of those who have expertise in the subjects addressed, such as a local college or university with an active nonhuman animal research program.

CARE recommends that live animals be used only when an institution's resources are sufficient to enable teachers, students, and their supervisors to follow these guidelines. These resources

include but are not limited to proper animal care facilities, access to veterinary care, appropriate animal research protocols, safety equipment, good documentation, and accurate recordkeeping, as well as training programs for teachers and students. Herein, we recommend the following guidelines govern animal research for K-12 education settings:

1. **All projects are planned and conducted** with humane consideration and respect for animal life. For projects that involve animal maintenance, only those animals that can be provided with humane care and readily maintained within the constraints of the institution's resources are selected. A teacher who has been trained in research animal care and use is the appropriate person to determine whether the animal can be provided with humane care. The teacher should consider the resources and infrastructure of their classroom, school, and district to evaluate the level of animal care that is logistically feasible for sufficient maintenance.
2. **Students and teachers inform themselves** of relevant federal and state guidelines for specific care and handling of their animals. A recommended reference is the *Guide for the Care and Use of Laboratory Animals* (National Research Council, 2011). Teachers and advanced students (e.g., high-school age) are recommended to undergo further training and become certified; some training courses and certification in the care and use of animals are available through nonprofit and for-profit organizations for a fee. For younger students, certified teachers should instruct them in the basics of animal care and use at a grade-appropriate level.
3. Because some seemingly innocuous procedures (e.g., handling and, even, observation per se) may cause temporary discomfort for some animals, CARE recommends that **any student undertaking a project involving live animals have a designated supervisor**. The supervisor is an individual who has had training or experience in the proper care of the species, as well as in the techniques and protocols to be used in the project. The supervisor assumes primary responsibility for all conditions of the project and ensures, by demonstration or documentation, that the student is trained in the care and handling of the animals as well as in the methods to be used.
4. On the rare occasion that a student plans to conduct a study that potentially can interfere with the animals' health or well-being, **CARE recommends that the study designate a qualified scientist to provide advice, consultation, and training to the student or the designated supervisor**. Under most circumstances, a qualified scientist is an individual possessing an earned graduate degree in the behavioral, biological, psychological, veterinary, or medical sciences who has relevant experience. Teachers are encouraged to reach out directly to relevant science faculty and/or animal researchers at local institutions of higher learning.

These differing guidelines, which encourage contact either with a supervisor for most projects or with a qualified scientist whenever a study is likely to cause discomfort to animals, reflect the different types of projects that are currently conducted in schools. That is, most behavioral projects are for observational purposes and need not involve procedures that potentially interfere with the animals' health or well-being. However, in some special cases, projects may manipulate animal experiences, but provide significant, original knowledge, and thus intervention is justified.

1. **A written proposal or plan for conducting the project**, described below, is prepared and approved before any aspect of the project is initiated, including procurement of the animals. Preparation of such a proposal, by students and teachers alike, requires individuals to think carefully about how animals will be used in the project and, thus, contributes to the researcher's respect for animals' welfare. The written proposal is an important learning experience at all levels of research expertise and is required for scientific research in all colleges and universities.
2. **The proposal provides detailed information** about all aspects of the project and addresses such important questions as:
 - » What are the specific purposes, plan of action, and predicted outcomes of the project or demonstration? CARE recommends that the proposal include justification of all methods and procedures.
 - » How will the animals be procured and from what source? Vendors licensed by the U.S. Department of Agriculture (USDA) are the standard source for rodent subjects. Handling of wild animal species typically requires a special permit obtained from the U.S. Fish and Wildlife Service of the U.S. Department of the Interior.
 - » How will the animals be cared for at all times during the project? The fundamental needs for any animal's welfare are of primary concern. Minimally, CARE recommends that the proposal document describe how animals will be housed, fed, watered, and kept clean; what individuals will be responsible for providing animal care on a daily basis and for checking that care is being provided; and what arrangements will be made for animal care needs during weekends, holidays, and vacations. It is also recommended that sufficient space for regular physical activity and provision of cage-mates for social animals be planned and documented. CARE encourages other safe forms of enrichment (e.g., providing chew toys, tunnels, nesting materials). See *Guide for the Care and Use of Laboratory Animals* (National Research Council, 2011) for specific applications.
 - » How will animals be protected from sources of disturbance or harm, including teasing by students? Who will be responsible for ensuring the animals remain in good health throughout the project? CARE recommends that the school and responsible teacher engage a veterinarian who will be

responsible for the medical care of the animals should the need arise at any point in the project. CARE recommends that the name and affiliation of the veterinarian be included in the proposal. Additionally, the teacher should be aware of or investigate school district-level rules and guidelines regarding visiting/resident animals in the classroom.

- » What is the rationale for the proposed project and how does this rationale dictate both the choice and number of animals to be used? CARE recommends that the proposal document clearly articulate that the author of the project has read and understood relevant available literature on the topic, considers whether alternatives to live animals would better accomplish the instructional goals, and thinks carefully about the number of animals needed for the project. CARE also recommends that the proposal reflects the author's understanding of readings relevant to the species chosen.
 - » What are the proposed start and end dates of the project? Whenever an author cannot finish an approved project by the specified end date, CARE recommends that the project author submit a request for an extension.
 - » What are the plans for the disposition of the animals after the project is complete? CARE recommends the proposal document indicate whether animals will remain in the classroom, be adopted into homes, transferred to another facility for long-term care, or, when appropriate, released back into the wild.
1. **Ideally, a proposal is reviewed by a group of individuals who have the professional knowledge to understand and evaluate it** and who have the sponsoring institution's or organization's authority to approve or disapprove it. At the college and university levels, institutional animal care and use committees (IACUCs) determine whether the provisions for animal care described in a research proposal are adequate to meet the needs of the animals and whether the procedures for animal use are humane. The sponsoring institution or organization keeps proposals on file for future reference. Teachers are encouraged to identify the nearest colleges, universities, or professional schools and to contact the chair of the institution's IACUC to explore review options.
 2. Following completion of the project, **the supervisor is responsible for documenting** that the project was conducted and completed as approved. In addition, the supervisor is responsible for proper and documented disposition of the animals (for example, whether animals remained in the classroom, were adopted into homes, transferred to another facility for long-term care, or released into the wild). If it is necessary that the animal's life be terminated, then the methods should be consistent with recommendations of the Panel on Euthanasia of the American Veterinary Medical Association (2021). CARE recommends that K-12 students not perform euthanasia but instead have an authorized supervisor or veterinarian perform euthanasia.

3. **Teachers and students are encouraged to consult with the Committee on Animal Research and Ethics of the American Psychological Association** for advice on adherence to the guidelines. CARE can be contacted through the APA Science Directorate at 750 First Street, NE, Washington, DC 20002 or science@apa.org.
4. **Schools are strongly encouraged to post a copy of these guidelines** in a conspicuous location wherever animals are housed and projects carried out. Additionally, it is strongly suggested that teachers and all participating students receive a copy of these guidelines for their own records to review as needed after initial training.

REFERENCES

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Approved by the APA Council of Representatives, August 2024.