



# Use of Animals and Cephalopods in Research Regulations

NOTE: These regulations are based on the Youth Science Canada policy.

## Preface

Regulations pertaining to projects involving animals and the display of those projects reflect strict standards. While exhibitors' investigations of biological processes are to be encouraged, they are subject to the same laws, ethics, and regulations as any other individual researching this field. In the "Animals for Research Act of Ontario", all vertebrates are afforded protection. Also, schools and science fairs are explicitly included in the definition of "research facility" in Ontario.

The regulations below are written in view of these laws. The display of a project is further restricted by Youth Science Canada in view of the need to maintain a positive public image towards science fairs. The restriction is due in part to a lack of essential expertise on the part of the student investigators and their immediate supervisors. There is also a desire to maximize the efficiency of animal use and to impress this on the students, especially regarding scientific merit.

## Use of Invertebrate Animals in Research

### Definition

An invertebrate is an animal lacking a backbone, such as an arthropod, mollusc, annelid, insect, etc. Invertebrates comprise nearly 95% of animal species and about 30 different phyla. Invertebrates have small nervous systems, consisting of many small brains (ganglia).

Note: Cephalopods (squid, octopi) have large - vertebrate-like central nervous systems and are treated like vertebrates (see below).

### Regulations

1. Exhibitors may do experiments on invertebrate animals.
2. WWSEF reserves the right to disallow any project involving invertebrate animals that is of questionable scientific or educational value, or is judged to be unethical.

## Use of Vertebrate Animals in Research

### Definition

Animals with a backbone (vertebrate) or spinal column include mammals, birds, reptiles, amphibians and fishes. Cephalopods are invertebrates with large, vertebrate-like central nervous systems. This policy applies to vertebrates and cephalopods.

Biological experimentation is subject to legal restrictions including, among others:

- Criminal Code of Canada, Section 446, Cruelty to Animals [https://laws-lois.justice.gc.ca/eng/AnnualStatutes/2008\\_12/FullText.html](https://laws-lois.justice.gc.ca/eng/AnnualStatutes/2008_12/FullText.html)
- Health of Animals Act, Bill C-66 <https://laws-lois.justice.gc.ca/PDF/H-3.3.pdf>
- Canadian Council on Animal Care (CCAC) [http://www.ccac.ca/Documents/Standards/Guidelines/Experimental\\_Animals\\_Vol1.pdf](http://www.ccac.ca/Documents/Standards/Guidelines/Experimental_Animals_Vol1.pdf)

## **Regulations**

Before experimentation begins, Form 4.1C (Use of Animals) and a completed Research Plan must be completed for every project that involves vertebrates or cephalopods, their embryos or their tissue, and submitted to the WWSEF Ethics Chair for approval.

1. Vertebrate animals (birds, fish, mammals, reptiles, amphibians), and cephalopods (squids, octopi) are not to be used in any active experiments, which may be deleterious to the health, comfort or physical integrity of the animals. This permits observation of wild animals, animals in zoological parks, farm animals and pets. Only animals acquired from biological supply houses may be used in "experiments". Animals from pet stores or from one's own breeding program cannot be used for these purposes.
2. Observation of pets, farm animals, animals in zoos and aquaria, and wild animals is permitted. Observation of wild animals falls within the definition of hunting in some jurisdictions. Students should obtain advice and permission from conservation authorities to ensure that they are not interfering with the animal's life, and to ensure that their project is permissible. A permit may be required.
3. Behavioural experiments with positive rewards are permissible only if the animal is not placed in a stress situation. Training an animal to travel through a maze to receive a food reward is stressful, particularly if the animal is hungry, and is therefore not permissible. However, allowing an animal to make a free choice (of food, for example) is permissible, so long as the animal is not stressed before offering the choice (e.g. by withholding food).
4. Studies of embryos are similarly restricted to observation, without intervention with drugs or other chemicals, or manipulations of physical condition to test the resiliency of the animal. If eggs are hatched, the offspring must be reared normally. Otherwise, all embryos must be destroyed by freezing before 85% of normal incubation.
5. Cells and animal parts (including organs, tissues, plasma or serum) purchased or acquired from biological supply houses or research facilities may be used in science fair projects. Evidence of the source of the materials (e.g. bill of sale) must be available at the display.
6. The acquisition of animal parts should involve either the services of biological supply houses or research facilities, or involve salvage from sources where the animal has been killed for other legitimate purposes in a legal and humane manner. Salvage from found carcasses (e.g. road kills) is discouraged due to serious health risks. If the acquisition involves salvage from a research project at an institution, then the disposition to the science fair project must be part of the original research proposal, and the Research Committee or the Animal Care Committee of the institution involved must have approved the disposition. Reference to the original project should be made on the science project. If the acquisition involves salvage from the food industry, then the source must be acknowledged. If the acquisition involves hunting, fishing or trapping, then those activities must be done in accordance with prevailing regulations, and precautions must be taken to ensure the safety of the student(s). The taking of animals other than for food, without explicit approval, can constitute cruelty. Permits for research are available from conservation authorities.



# Use of Animals Research Plan Template

NOTE: This template is based on the available Youth Science Canada template.

It is a simple way of making sure that what you are doing is ethical and taking the best care of the animals involved. This Template should be completed BEFORE you start your project.

Develop and share this plan with your adult supervisor(s). If you enter this project in the WWSEF, you may be required to show this plan to the WWSEF Ethics Chair and judges.

## Instructions:

1. Adult and Scientific Supervisor(s) Who will be supporting you in the project? When working with animals it is important to have a Scientific Supervisor. Your adult supervisor can be your scientific advisor too, if they are qualified to advise you in the type of project that you are doing.
2. Data Collection When will you start and stop collecting data from the animal(s)?
3. Location Where will you be collecting the data?
4. Purpose Briefly explain the research you did to support your idea. Explain the procedure you will be using.
5. Animals Give the scientific and popular name(s) of the animal(s) that you plan to use. How many animals will be used?
6. Procedure What observation(s) and/or measurements will be done on the animals and how will you do them?
7. The Three R's (Replacement, Reduction and Refinement) How will you use these principles when developing your procedure(s)? You can learn more about the Three R's principles at [www.nc3rs.org.uk/the-3rs](http://www.nc3rs.org.uk/the-3rs)
8. Risks What are the potential risks in your project? Write a complete and clear description of all known or anticipated risks and how you will address them.
9. What are the potential benefits? Your project must have some benefit in order to justify using animals. Describe known and/or potential benefits to the animals and/or society. If this idea has been already tested come up with a new idea.
10. Is this a continuation of a previous project? If so give a brief summary of the previous project.



# Use of Animals Research Plan

<b>School</b>				
<b>Project Title</b>				
<b>Exhibitor 1</b>	<b>First Name</b>		<b>Last Name</b>	
	<b>Phone</b>		<b>Email</b>	
<b>Exhibitor 2</b>	<b>First Name</b>		<b>Last Name</b>	
	<b>Phone</b>		<b>Email</b>	
<b>Adult Supervisor</b>	<b>First Name</b>		<b>Last Name</b>	
	<b>Phone</b>		<b>Email</b>	
	<b>Role</b>	(eg. Teacher, Parent, etc.) > > >		
<b>Scientific Supervisor</b>	<b>First Name</b>		<b>Last Name</b>	
	<b>Phone</b>		<b>Email</b>	
	<b>Role</b>	(Professional affiliation) > > > >		
<b>This project involves:</b> (circle one)	Vertebrate Animals	Non-vertebrate Animals	Animal Tissue	

## Data Collection

Start Date	
End Date	

Location: \_\_\_\_\_

Purpose: \_\_\_\_\_

Animals: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

*In the following, please be brief, but include important information.*

Procedure: \_\_\_\_\_

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The Three R's: \_\_\_\_\_

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Risks: \_\_\_\_\_

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Potential Benefits: \_\_\_\_\_

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Is this a continuation of a previous project? \_\_\_\_\_

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## Instructions for using Form 4.1C Use of Animals Approval

### 1. Form 4.1C

Submit this form to your supervisors after you have completed the *Use of Animals Research Plan*. This form certifies that a project involving the use of animals is in full compliance with WWSEF Regulations for the *Use of Animals in Research*.

### 2. Documentation

Both the Use of Animals Research Plan, and Form 4.1C, must be made available to the WWSEF Ethics Chair.

### 3. Instructions for Exhibitors

- a. Print the form.
- b. Complete the table.
- c. Get it signed with all required signatures.
- d. Scan or photograph the form and the completed Use of Animals Research Research Plan and email them to [ethics@wwsef.ca](mailto:ethics@wwsef.ca).
  - If approved, you will receive an email from the WWSEF Ethics Committee. The form giving approval will be returned to you at WWSEF.
  - If not approved, you will be contacted to help redesign your project.
- e. Store the original signed copy of Form 4.1C in a safe place.
- f. Make a paper copy of the completed signed form and keep it with your project at all times.



## Form 4.1C Use of Animals Approval

This form certifies that a low risk project involving the participation of humans is in full compliance with WWSEF regulations *Use of Animals in Research*.

<b>School</b>				
<b>Project Title</b>				
<b>Exhibitor 1</b>	<b>First Name</b>		<b>Last Name</b>	
	<b>Phone</b>		<b>Email</b>	
<b>Exhibitor 2</b>	<b>First Name</b>		<b>Last Name</b>	
	<b>Phone</b>		<b>Email</b>	
<b>Adult Supervisor</b>	<b>First Name</b>		<b>Last Name</b>	
	<b>Phone</b>		<b>Email</b>	
	<b>Role</b>	(eg. Teacher, Parent, etc.) > > >		
<b>Scientific Supervisor</b>	<b>First Name</b>		<b>Last Name</b>	
	<b>Phone</b>		<b>Email</b>	
	<b>Role</b>	(Professional affiliation) > > > >		
<b>This project involves:</b> (circle one)	Vertebrate Animals	Non-vertebrate Animals	Animal Tissue	

### Request for Ethics Approval

I/We have read and understand the WWSEF Regulations for Animals in Research.

\_\_\_\_\_  
Exhibitor 1 signature                      Date    Exhibitor 2 signature                      Date

\_\_\_\_\_  
Adult Supervisor signature      Date    Affiliation of Adult Supervisor

\_\_\_\_\_  
Scientific Supervisor signature      Date    Affiliation of Scientific Supervisor

### Ethics Approval by Chair of the WWSEF Ethics Committee

I certify that this project involving the Use of Animals in Research is in full compliance with the WWSEF Regulations involving invertebrates and cephalopods and that it is eligible for the WWSEF and the Canada-Wide Science Fair.

\_\_\_\_\_  
WWSEF Ethics Committee Chair Signature      Date