



Use of Invertebrate Animals in Research Policy

1 Introduction

1.1 Definition of an Invertebrate Animal

An animal lacking a backbone, such as an arthropod, mollusc, annelid, coelenterate, etc. The invertebrates constitute an artificial division of the animal kingdom, comprising 95 per cent of animal species and about thirty different phyla. Invertebrates have small nervous systems, consisting of many small brains (ganglia). (Ref.1)

a) This policy applies to all invertebrate animals except Cephalopods and Decapod Crustaceans. Projects involving Cephalopods and Decapod Crustaceans must follow the Vertebrate Animals policy.

1.2 All aspects of a project involving biological experimentation with invertebrate animals must be within the comprehension and capabilities of the student undertaking the study.

1.3 All STEM projects involving invertebrate animals must have scientific merit, have educational value, and avoid gratuitous harm.

1.4 Youth Science Canada reserves the right to disallow a project involving experimentation on invertebrates that is of questionable scientific or educational value or is judged to be unethical.

2 Definitions of Student Researcher and Adult Supervisor

2.1 A Student Researcher is the person primarily responsible for the project. This student makes observations, takes appropriate data, and analyses it to draw conclusions.

2.2 The Adult Supervisor, a parent, teacher, professor, or scientist, is responsible for ensuring that the student is aware of the ethical issues involved in the project and provides guidance and advice to ensure that Youth Science Canada policy is followed. The Adult Supervisor is responsible for ensuring that the student's research is eligible for entry into the CWSF, and related or other events sponsored by Youth Science Canada. Every project involving the participation of humans or the use of invertebrate or vertebrate animals requires an Adult Supervisor.

3 Invertebrate Animals

3.1 Lower orders of life - bacteria, fungi, protozoa, insects, plants, and invertebrate animals with elementary nervous systems - can be used in experimentation to reveal valuable basic biological information. Students may do experiments on such invertebrate animals and exhibit their work in STEM fairs, except for the Cephalopods (e.g., squid, octopus, or cuttlefish) and Decapod Crustaceans (e.g., crabs, lobsters, crayfish, and shrimp). Cephalopods have a large, vertebrate-like central nervous system, and Decapod Crustaceans have small nervous systems consisting of many small brains (ganglia); each are treated according to the rules for Vertebrate Animals.

4 Principles and Guidelines for the Use of Animals in Elementary or Secondary School Education

- 4.1 The Institute for Laboratory Animal Research (USA) outlines ten Principles that define the ethical use of animals in a school or STEM fair setting. (Ref. 2) Youth Science Canada endorses these ten principles, and all students doing a STEM project involving animals must be familiar with them.

5 References

- 1) [Biology Dictionary](#)
- 2) [ILAR Animals in Pre College Education](#)