



Use of Firearms, Hazardous Materials and Equipment

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Policy Section:	4.2 Youth Science & Technology Research - Safety
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Contact:	National Science Fair Committee Chair

1 Introduction

- 1.1 YSF Canada and Regional Science Fairs allow students to conduct research involving hazardous materials, equipment and firearms as long as they adhere to federal and provincial/territorial regulations and guidelines that are designed to protect the safety of the researchers.
- 1.2 Any experimental design involving firearms, and/or hazardous devices, must be approved by a Regional or YSF Canada Ethics Committee to ensure compliance with regulations and restrictions. If necessary, YSF Canada will refer the project to the authorities cognizant of current regulations.
- 1.3 Use of hazardous equipment, dangerous goods, explosives and firearms requires proper supervision by an Adult Supervisor. The Adult Supervisor must be directly responsible for overseeing student experimentation and must provide proof to the Regional Science Fair Ethics Committee of his/her licensing and expertise in the use of a firearm, volatile substance or device, and/or explosives BEFORE the project commences.
- 1.4 When considering a project which involves the use of firearms, ammunition, dangerous goods or explosives, it is strongly suggested that students and Adult Supervisors make contact with one or more of the following agencies/government ministries: RCMP, Provincial Police, Municipal Police, Federal and Provincial Justice Ministries, Provincial Ministries responsible for hunting and fishing regulations, Municipal offices regarding the use of firearms within their jurisdiction, National and Provincial hunting organizations, federal Ministry of Mines and Resources.

2 Legislative Framework

- 2.1 Potential violations of the Criminal Code, Explosives Act and Transportation of Dangerous Goods Act must be considered and researched prior to experimentation: Criminal Code considerations that should be addressed by students and Ethics Committees in reviewing a project include:
 - i) Possess, trade, transfer or give as a gift a firearm to a person without a FPC or proper class of acquisition license.

- ii) Unlawfully making an explosive.
 - iii) Possession of a weapon dangerous to the public peace.
 - iv) Unlawful storage of a firearm, ammunition or explosive.
 - v) Pointing a firearm.
 - vi) Careless use of a firearm.
 - vii) Criminal Negligence causing bodily harm or death.
 - viii) Fail to sign vehicle properly that a dangerous good is being transported.
- 2.2 Other considerations for projects involving the use of firearms, ammunition, dangerous goods or explosives include Provincial and Federal acts such as the Environmental Protection Act, Migratory Bird Game Act and Canada Shipping Act. Students and the Regional and YSF Canada Ethics Committees are responsible for knowledge of and adherence to all Municipal, Provincial and Federal laws governing the materials and the use of those materials.
- 3 Firearms**
- 3.1 As of January 1, 2001, anyone possessing a firearm, even temporarily, must have a Firearms Possession Certificate (FPC). Persons under 18 years of age may acquire a Minor's Possession Certificate and can possess non-restricted weapons.
- 3.2 Minors cannot possess restricted firearms or cross bows.
- 3.3 As of January 1, 2003, firearms used for any purpose, including science projects must be registered and the person possessing the firearm must have, at all times, the registration certificate with the firearm.
- 3.4 An individual may load a firearm or handle a loaded firearm only in a place where the firearm may be discharged in accordance with all applicable Acts of Parliament and the legislature of the province/territory, regulations made under such Acts and Municipal By-Laws.
- 3.5 As of January 1, 2001, anyone acquiring ammunition must have a FPC or a Firearms Acquisition Certificate. On expiry, anyone with a Firearms Acquisition Certificate (FAC) will have to replace it with a Firearms Possession Certificate.
- 3.6 In all cases involving firearms, the Adult Supervisor must possess a Firearms Possessions Certificate/Hunter Safety Certificate and/or a Canadian Firearms Safety Course equivalent, and be knowledgeable in the use of the firearms or devices that will be used in the experimentation. In all cases, the Adult Supervisor must have reached the age of majority (18 years).
- 3.7 Students wanting to use firearms must show proof of a Hunter Safety Course/FPC and/or Canadian Firearms Safety course or equivalent. Copies of these certificates must be provided to the Ethics Committee in advance of beginning the experiment.
- 3.8 For firearms requiring federal and/or provincial/territorial permit or registration, the student or Adult Supervisor will be expected to have the permit prior to the onset of the experimentation. A copy of the permit must be submitted to the relevant Ethics Committee. Only firearms/explosive devices, which have federal, provincial/territorial and

municipal approval, may be used in experimentation. Proof of this approval must be presented to the Ethics Committee with the student's proposal in advance of beginning the experiment.

4 Volatile and Explosive Materials

- 4.1 Volatile materials must be handled and transported pursuant to the federal Transportation of Dangerous Goods Act and provincial legislation. The person handling the material must be properly trained. Explosives must be acquired, stored and handled pursuant to the federal Explosives Act.

5 Boilers and Pressure Vessels

- 5.1 A pressure vessel constructed for or used in a project, with a capacity greater than 42.5 litres or operated at a pressure greater than 103 kilopascals, must be inspected and certified for use by an inspector appointed under the Boilers and Pressure Vessels Act/Regulations. A certificate of inspection must be available at the project display.
- 5.2 Any finalist-constructed pressure vessel, regardless of size or pressure, should be inspected according to provincial regulation prior to use by an engineer with certification in boilers and pressure vessels to ensure the safety of the young scientist. Evidence of the inspection should be available at the display.
- 5.3 Any pressure vessel must have a safety valve, rupture disc or similar device to limit internal pressure below the burst pressure of the vessel. The safety valve shall relieve to a safe or remote area.