



Fair Manual

Introduction

The Waterloo-Wellington Science and Engineering Fair is a non-profit registered charity that operates the regional science fair. We are affiliated with Youth Science Canada and are entitled to send some of our best projects to the Canada Wide Science Fair. Some of the best projects from the Canada-Wide Science Fair are given the opportunity to participate in the Intel International Science and Engineering Fair the following year. Over the past years, several of our students have been part of Team Canada at the ISEF.

By providing access to this manual, it is our hope that while you are creating your project and preparing it for the fair, you will encounter fewer problems.

If you find errors in this manual, please bring them to our attention.
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NOTE: Other downloadable “Manuals” available on our website: - Project Creation
- Fair Day
- Judging Sheets

Eligibility

“The true scientist never loses the facility of amazement. It is the essence of his being”
Hans Selye

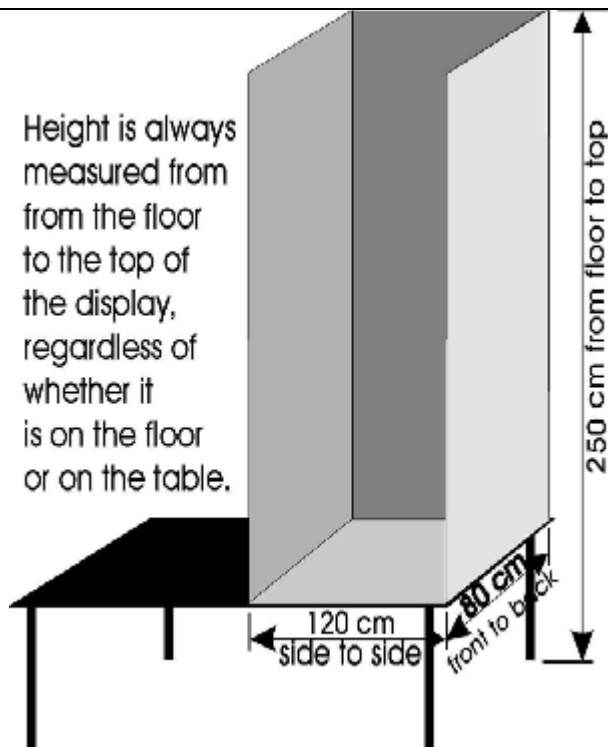
<p><u>To be eligible</u> for participation in the Waterloo-Wellington Science and Engineering Fair (WWSEF) a student must:</p> <ol style="list-style-type: none"> 1. Be under twenty-one years of age as of June 30 in the year of participation; 2. Be registered as a regular day student in a public, private or parochial school, or the equivalent, in Waterloo Region or Wellington County, or with the Upper Grand District School Board; 3. Be in grades seven to twelve, and 4. Be approved by the school as one of the projects within the "Maximum Number of Projects" for the school. 5. Home-schooled students should contact the Registrar for a ruling on their eligibility before beginning work. 	<p>In addition:</p> <ol style="list-style-type: none"> 6. Group exhibits with a maximum of two students may be entered and placed in the category of the senior member of the group. 7. A student, or group of students, may not exhibit more than one project each year. 8. An exhibit cannot be entered in more than one school science fair per season registered for competition leading to participation in the Waterloo-Wellington Science and Engineering Fair. 9. An exhibit cannot be entered in the Regional Fair for more than one year without significant changes.
<p><u>School Entries:</u> Schools of different sizes are allowed to apply for at least five but no more than twenty science fair entries, depending upon the number of categories within the school and the number of students in grades seven through twelve. See the registration page for details.</p> <p>Generally the Registrar must receive application forms by the Friday prior to the March Break. Application forms received after this date may not be accepted.</p> <p>Please check the registration page for the exact date for this year.</p>	<p>Note: With school eligibility ranging from five to twenty projects the total number of applications could exceed the limit that can be reasonably handled and still provide a meaningful experience for the students. As a result, the Waterloo-Wellington Science and Engineering Fair <u>reserves the right to change these limits without notice and to reduce the number of projects sent to the fair, on a pro-rated basis,</u> after the application forms have been received. Schools are advised to rank applications in advance to avoid difficult, and possibly embarrassing, last-minute decisions.</p>
<p><u>The Canada-Wide Science Fair (CWSF):</u> Students eligible for the WWSEF, and adhering to all of its rules and regulations, are automatically eligible for the CWSF. Some of the students participating in the WWSEF may be selected to attend the next CWSF. There is a maximum total number of students who may be selected for the CWSF. The maximum varies annually, partly influenced by cost.</p> <p>Students nominated for the ISEF, but not selected, will still have the opportunity to participate in the CWSF.</p>	<p><u>The International Science and Engineering Fair (ISEF):</u> Students who attend a Canada-Wide Science Fair may become eligible for participation in a future International Science and Engineering Fair. While at the Canada-Wide Science Fair, students receive all of the necessary information needed in regard to possible participation in the ISEF.</p> <p>Several students from the Waterloo-Wellington Science and Engineering Fair have been selected to represent Canada at the ISEF in the past.</p>

All research projects will be checked during registration and those not meeting the regulations will need to be corrected before they are accepted for display and judging.

The rules and guidelines listed below are based on those used by Youth Science Canada at the CWSF.

There are also special rules if your research project involves animals or humans

Tip: If you are thinking of working with animals or humans check the special rules first, then, if you still want do the research, contact our Rules and Regulations Officer **before** doing a lot of work



I. Exhibits:

1. Exhibits and accessories must not exceed 80 cm from front to back, 120 cm from side to side and 250 cm in height from the floor. All measurements must be made from the outermost points including framework and appendages and will be checked by the committee. Exhibits exceeding these dimensions will not be accepted.
2. Exhibits must be sturdy and self-supporting; adjacent walls may not be used for support. Moving parts must be firmly attached and approved for safety.
3. Glue all paper flat to the backboard, or tape all edges. Do not hang a collection of papers; put them in a binder.
4. One electrical outlet supplying AC110 volt 60 cycles will be supplied if requested, but exhibitors should bring their own good quality (CSA approved) extension cord. No gas or water outlets will be available. Switches and cords must be the approved variety. Cell or battery-fed circuits should be safe in design and operation.
5. The exhibitor must supply all equipment except a display table.
6. Water may be available from sinks in the toilet near the exhibit hall. Bring your own pail to carry it and sponges to clean up.
7. Canada-Wide Science Fair rules for backboards and display material must be adhered to for any project going there. The rules change so students should check the Youth Science Canada web site for the latest ones.

II. General Safety

1. It is essential that public safety be the prime consideration. Precautions must be taken to ensure that no serious personal injury, property damage or legal action could result.
2. Remove or otherwise protect all sharp edges or corners of prisms, mirrors, enclosures, glass and metal plates.
3. No compressed gas cylinders are allowed.
4. Lengths of hoses or extension cords are to be kept to a minimum and placed out of the way to eliminate tripping hazards. Use tape for securing them.
5. Aisles and exits must not be obstructed.
6. Exhibits with potential hazards may be restricted to demonstration under conditions dictated by the Fair. Projects exhibited under these conditions must not be left unattended.

III Fire Safety

1. Fire extinguishers of proper size and rating will be available in the exhibition area.
2. Combustible material must not be used near a heat source.
3. Open flames are not allowed, with one exception. If the use of an open flame is essential for the demonstration of a project, the flame may be used in the presence of judges, but only if satisfactory safeguards are provided. All flame-producing equipment (candles, torches, matches, etc.) must be stored by the safety inspectors at the front desk during the fair. Prior arrangements must be made for their use during judging.

IV. Chemical Safety

Toxic, corrosive or flammable chemicals are not allowed. The use of substitutes is mandatory. Common salt, for example, can be used to simulate ammonium nitrate; water can replace alcohol, ether, chloroform or other highly flammable liquids; and molasses can be used instead of petroleum products. When chemicals are simulated, they should be clearly labelled with the name of the substance they represent and the word "simulated". The judges evaluate work already done. Therefore, you do not need to demonstrate what you did exactly. They will not penalize a project for not having "real" chemicals present. Cleaning up spilled harmless substitutes is much simpler than toxic, corrosive or flammable ones.

Rules and Regulations

Matching the Projects Fairly – Categories, Divisions & Types

FIRST

The Science fair projects are divided by Category into:

Junior Category: Grades 7 and 8.

Intermediate Category: Grades 9 and 10.

Senior Category: Grades 11 and 12

This is so that people of similar experience compete with each other.

SECOND The projects in each Category are put into one of five Divisions:

Biotechnology:

Biotechnology is the application of knowledge of biological systems to solve a problem, create a product or provide a service. Biotechnology projects will fall into one of these three subject fields:

Crop Development projects deal with plants that are involved in agricultural, horticultural or silviculture (forestry production. Projects in this area may investigate problems of herbicide tolerance, spacing, cultivation, irrigation, effect of soil variation, hybridization, etc

Animal Science projects pertain to animals involved in agriculture and aquaculture, those domesticated as pets, or for sport, as well as projects where humans are participating in wild animals' lives, perhaps through habitat revitalization, population management, or harvesting. All projects involving animals demand careful planning with respect to YSF Canada regulations.

Possible topics include enhancement of animal production, reproductive technologies, genetics and transgenics, animal health, housing, training and interactions

Microbial projects consider how microbials affect productivity in agriculture, horticulture and forestry. Possible topics include growth-promoting rhizobacteria, biological weed and fungal control, bio-fuels, etc

Earth and Environmental Science:

An Earth and Environmental Science Project examines properties of a planet, not necessarily Earth. Projects may also have aspects of life science or physical science. The distinguishing feature for Earth Science is the intention of the student(s) doing the project. Projects dealing with weather, geology, soil science, astronomy, oceanography, erosion, flooding, tectonics, and earthquakes should be entered in this division.

Engineering:

Any topic in applied science, using electricity and magnetism, robots, pulleys, gears, rocketry, solar energy, lasers, aeronautics, structures, chemical processes to achieve a purpose, development of computer hardware, software or applications, etc. are Engineering.

Life Science:

Projects dealing with living organisms, factors affecting growth, etc., whether biology or social science, are Life Science. These projects are more general in scope than biotechnology. Projects, which focus on the acquisition of knowledge about how something lives, should be registered as Life Science, not Biotechnology.

Physical and Mathematical Science:

Studies of chemical or physical phenomena, optics, colour and sound, radiation, comparison of similar products, corrosion, and studies in mathematics are examples of projects in this division. These projects are more general than engineering.

Note : Many projects contain elements of two or more divisions. The stated purpose or hypothesis of the project may be the best indicator of the exhibitor's thinking, and indicate into which division a project should be registered.

THIRD: For each division there are three different types of project

An Experiment:

This is the most common type of project. A gold award project of this type should involve an original scientific experiment that recognizes and controls all significant variables and demonstrates excellent collection, analysis, and presentation of data. Significant positive findings are not essential to achieve a successful experiment. Design is more important than results

An Innovation:

This type of project would involve the development and evaluation of new devices, models, techniques or approaches in fields such as technology, engineering, and computers. A computer innovation may involve software or hardware. A gold award project should integrate several technologies, innovations, or designs; or construct an original system that will have commercial application or benefit society. It must demonstrate development and design based on sound understanding of scientific, engineering, or technological principles.

A Study:

This type of project involves the collection and analysis of data from other sources. Its intent is to reveal evidence of a fact or a situation of scientific interest. This could include cause and effect relationships, in-depth studies, or theoretical investigations of scientific data. A gold award exhibit in this area must demonstrate sound scientific techniques for data collection and show evidences of analysis with insight.

Note: If the exhibitor classifies the project as the wrong Type, no penalty will be assessed. The judges will assess the proper project Type so that the project will receive the fairest possible judging.

Notes on the distinctions between divisions:

Physical Science, Earth Science or Life Science?

A project examining the formation of acid rain would be Physical Science. One that studies its effects on soil nutrients, perhaps using plants or micro-organisms as indicators of leaching, would be Earth Science, but one that investigates the consequential effect on micro-organisms and plants would be Life Science.

Earth Science or Life Science?

A project dealing with the meteorological features of a Chinook would be placed in Earth Science, but one studying the effects of a Chinook on living organisms would be placed in Life Science.

Physical Science or Life Science?

A project investigating the factors affecting bubble gum bubble size (time, brand, etc.) would be a Physical Science project, even though some factors to be considered (chewing and enzymes in saliva) are biotic. If the focus was on the effect of chewing and saliva as a digestive process, using gum as an indicator, it would be a Life Science project.

Physical Science or Engineering?

A project examining the variables involved in Bernoulli's Principle would be entered as Physical Science. Designing wings, sails or other devices, which use the principle, would be Engineering.

Measuring solar energy would be Physical Science whereas using it would be Engineering. Similarly, comparing the effectiveness of sunscreens would be a Physical Science project while formulating a new one would be Engineering.

Comparing the properties of papers, even home-made, would be Physical Science while attempting to design a particular paper, or a new method for making the paper, would be Engineering.

Physical Science, Engineering or Life Science?

A project, which examines and/or compares the physical properties of materials, which absorb oil, would be placed in Physical Science.

A project, which developed a new material or a method, to clean up oil spills would be Engineering.

A project dealing with the effect of an oil spill on flora or fauna would be a Life Science project.

Biotechnology or Life Science?

Determining the optimum conditions for raising earthworms would be Life Science but designing a vermicarium would be Biotechnology.

A project, which examines the growth of weeds in a garden, would be Life Science, while one that measures the effects of weeding a garden, versus not weeding, would be Biotechnology.

Observing your dog's reaction to doorbell rings, telephone rings or smoke detector alarms would be Life Science, while training a dog to respond to the telephone to help a hard-of-hearing person, would be Biotechnology.

Regulations for Animal Experimentation in Science Fairs

Biological experimentation is essential for an understanding of living processes. Such studies should lead to a respect for all living things. Capable students, anxious to pursue a career in biological sciences, must receive the necessary encouragement and direction.

All aspects of the project must be within the comprehension and capabilities of the student undertaking the study.

I. Preface

Regulations pertaining to projects involving animals and the display of those projects reflect strict standards. While students' 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 **Criminal Code of Canada** and 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

II. Regulations:

1. All research involving animals should be screened by a committee that is cognizant of current regulations. If such a committee is not readily available, or is unsure of certain aspects of an idea, please write or call our Rules & Regulations Officer (see contacts page on the website). Your request will be passed on to an appropriate authority for guidance and suggestions.
2. Lower orders of life (bacteria, fungi, protozoa, insects, plants and invertebrate animals) can be used in experimentation to reveal valuable basic biological information.
3. 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.
4. 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. 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).
5. 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.
6. 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.

7. 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, then the disposition to the science fair project must be part of the original research proposal, and such disposition must have been approved by the Research Committee or the Animal Care Committee of the institution involved. 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.
8. Biological experimentation is subject to legal restrictions including, among others:
 - o Criminal Code of Canada, Section 446, Cruelty to Animals;
 - o Health of Animals Act, Bill C-66;
 - o Animals for Research Act (Ontario), and
 - o Guidelines of the Canadian Council on Animal Care and Youth Science Canada.

III. Display of Animals and Animal Parts:

Students working on biological projects may involve animals as outlined above. The display of the project is to be a report of completed work, and thus further restrictions are imposed. Also, science fair organizers should try to reduce the potential for adverse reaction from visitors and other exhibitors.

1. Live microorganisms and vertebrate or non-vertebrate animals shall not be included in the display, although appropriate photographs may be available in the report.
2. The only parts of vertebrate animals that may be displayed are those that are either naturally shed by an animal or parts properly prepared and preserved. Soft tissue specimens are not acceptable if they are preserved in formaldehyde, a dangerous chemical excluded under the chemical safety sections of these guidelines. Sealed tissue samples on microscope slides are permissible. Thus, porcupine quills (safely contained), shed snake skin, feathers, tanned pelts and hides, antlers, hair samples, skeletons and skeletal parts are permissible, while organ and tissue samples are not. However, photos, videos or slides of organ and tissue samples may be made available for viewing upon request but are not permitted to be placed on display.

No project involving ingestion of any substance (including foods, over-the-counter medications, even water) is eligible for the CWSF unless carried out entirely in a licensed facility.

Anyone considering such a project, such as a taste test, should contact, write, or call our Rules and Regulations Office in the Contacts page.

The following rules and guidelines for research and/or science fair projects involving human subjects are adapted from those of the Youth Science Canada Guide for Ethics Review of Human Research. (www.yssf.ca)

Regulations for Research Involving Human Subjects

I. Statement of Ethics Review Requirements:

Youth Science Canada requires that all research involving human participants conducted as a project competing in the Canada-Wide Science Fair, or an affiliated Regional Science Fair, satisfy ethical and safety rules. This ensures that the safety and welfare of the participants as well as the researchers are considered and protected. The ethics review process **should** involve the student's supervising teacher (or adult mentor), members of a bona fide research institution or hospital practised in the ethics of human research, or the WWSEF Safety and Regulations Officer (see contacts page on the website), or the Ethics, Animal Care and Safety Committee of the Youth Science Canada. This will provide the researchers with an appreciation of the requirements and safeguards existing in law regarding experimentation in humans.

II. Ethics Review:

The WWSEF Safety and Regulations Officer (see contacts page on the website) invites inquiries regarding the ethics of any planned human (or animal) research project. He will assist in the development of an acceptable research design. He also reviews all WWSEF projects entered in the Canada-Wide Science Fair to ensure they are ethically acceptable and thus eligible for competition.

Note: Projects dealing with forensic science topics must preserve the anonymity of any human victims, and project displays must avoid sensational or gratuitous, macabre images.

III. Definitions of Human Research, Researcher, and Participant.

Human research refers to any project that involves the generation of data about persons beyond that which is necessary for the person's well being. This includes non-invasive methods such as: surveys, interviews, observations of, or field work with, individuals, administration of psychometric and other tests, examination of records, and exercise testing. It may also involve invasive procedures, such as blood sampling, tissue sampling, and insertion of cannulae.

A researcher is a student data or information collector, or assistant, involved in research activities involving humans.

A participant is a person, who by virtue of his/her participation in a data-generating situation or activity, is a source of primary data, and bears any risk as the research is being carried out.

IV. The Application Form (see below)

Tip: If you are thinking of doing anything involving humans contact the Safety and Regulations Officer (see contacts page on the website) **immediately before you waste time on something that can't be accepted at the fair.**

Supervising teachers are responsible for ensuring the safe and ethical operation of projects dealing with human subjects. There is an Application Form for Review of Research with Human Participants (see below), which needs to be completed. If there is any doubt in regard to the ethics of a proposed project this form should be completed and forwarded to the Safety and Regulations Officer (see contacts page on the website) **prior to the commencement** of any experimentation. The information will be checked and feedback will be provided as quickly as possible. Projects involving human participants that are deemed to be unethical may be disqualified.

The following instructions will provide assistance in completing the form as well as providing additional guidelines for conducting research involving humans.

1. **Student Researcher(s):** The student researcher(s) will collect the data. **All** students involved must be listed, even if assisting the principal investigators.
2. **Title of Project:** The title of project should be succinct, yet clearly describe the focus of the project.
3. **Supervising Teacher:** The supervising teacher supervises and **accepts responsibility** for the safe and ethical conduct of the project. The name, school and school telephone number of the supervising teacher must be given. If a non-teacher adult is supervising then the equivalent information and headings should be inserted.
4. **Purpose and General Procedure:** The purpose describes the reason for conducting the project, and briefly outlines literature that has shaped the project proposal. The general procedure to be used in the research is to be outlined.
5. **Participants and Procedural Details:** The participants who will be involved should be described with respect to age range, sex, numbers required and other identifying characteristics. Special consideration is needed for the involvement of children or other vulnerable participants. Describe the source of the participants and the manner in which they will be recruited. Attach a copy of any covering letter. Studies involving students and/or teachers often require the explicit permission of Board of Education officials. Researchers are reminded of the potential for certain participant groups to experience or perceive undue pressure to volunteer as research participants, and are to minimize this perception. Members of distinct cultural groups, legally incompetent people and children are examples of special populations that require special effort to ensure that informed consent is being given. Include details of any compensation for participation in the study. It should not be so high as to induce a person to volunteer, or cause a person to continue in a study past the point at which he/she would otherwise stop. Describe procedures in detail and in terms that can be understood by reviewers without specialized knowledge of the research area. For invasive procedures, indicate awareness of, and willingness to follow, universal precautions for proper handling of blood and body fluids. These guidelines are widely available. If invasive procedures are used, give the name and title of the person conducting these procedures, as well as information about his/her training. When materials are to be ingested, give information on dosage, frequency and possible side effects. Drugs, whether prescription or otherwise, are not to be used. Studies involving exercise testing must include a description of all tests, a copy of the medical screening form used to determine that the potential participants are in good health, and a statement about exclusion criteria. Describe arrangements for medical supervision of the testing. The 1986 American College of Sports Medicine Guidelines for Exercise Testing chart is a common guideline. For non-invasive studies, attach a copy of all test materials and indicate the time required for participation in the study.

6. **Risks and Benefits to Participants:** A complete and clear description of all known or anticipated risks and benefits of participation, whether physiological, psychological, economic and/or social in nature must be provided. Indicate how risk will be minimized to the extent reasonably possible. In cases of tasks involving psychological risk, indicate preparations to deal with any negative impact attributable to participation in the study. All studies must have some benefit in order to justify their conduct. Thus, a description of known and/or potential benefits to the participants, and/or society, is required.
7. **Informed Consent:** Participants must give informed consent to participate in any science fair project before it begins, and this is normally obtained in writing. Parental approval is required for the participation of minors as research subjects. Details which must appear in the consent letter to ensure the participants have been properly informed and thus given free consent, without pressure to participate include:
 - a. name(s) of investigator(s), school, supervising teacher, telephone number;
 - b. description of the procedures;
 - c. description of risks and benefits from participating;
 - d. details of time commitment;
 - e. details of any plan to re-contact participants;
 - f. details of remuneration;
 - g. plans to ensure confidentiality of data;
 - h. details about their right to withdraw at any time without fear of reprisal;
 - i. information about how to communicate a decision to withdraw from the study, and
 - j. a statement that the project has been reviewed and received ethics approval from whatever authority was consulted.
 - k. **Note:** There may be circumstances under which written, informed consent cannot be reasonably collected. For surveys, consent may be assumed by the completion of the survey. In these circumstances a detailed explanatory letter should accompany the questionnaire, and provide identical information as listed above.
8. **Anonymity of Participants:** The confidentiality and anonymity of all participants must be maintained. Use coded systems of references; no identifying information may be used. Also, appropriate safeguards for storage and access to data, or destruction of data, must be planned.
9. **Feedback to Participants:** Feedback of the findings to the participants, their parents and/or teachers should be part of the plan. If deception is used, provide details about the nature of the deception and why it was needed. Participants in such a study must receive adequate and immediate debriefing at the end of their participation. This debriefing, provided orally and as a written handout, should tell why the deception was required, offer the opportunity to answer any questions and then seek their written consent to use all information obtained from them.
10. **Additional Attachments:** Sample letters of consent, parent permission letters and pre-exercise medical screening forms should be included as appendices to the form.

Appreciation and acknowledgment for assistance in the development of these guidelines goes to Dr. Susan Sykes, Office of Human Research at the University of Waterloo, Dr. Carl L. von Baeyer, Professor of Psychology at the University of Saskatchewan, and Dr. Bill Ross, Faculty of Medicine at the University of Ottawa.



Waterloo-Wellington Science and Engineering Fair Application For Review of Research with Human Participants

Read the regulations for research involving human subjects before you begin.
Print or type, attach additional sheets as necessary.

Forward the Completed Form to the Safety and Regulations Officer.

1. Student Researcher(s):

Name _____	Name _____
Address _____	Address _____
_____	_____
Phone _____	Phone _____
Email _____	Email _____

2. Title of Project:

3. Supervising Teacher:

_____	School _____
Phone _____	Email _____

Summary of Proposed Research

4. a) Briefly describe the purpose of this project.

b) Briefly outline the general experimental procedure.

5. a) Who, and what number of participants will be involved in this project?

b) How will the participants be recruited for this project? (Attach a copy of any recruitment notice or letter)

c) Outline what the participants will be expected to do. (e.g. surveys, interviews etc.) Attach a copy of test materials, surveys, questionnaires or interview questions to be used.

6. a) What are the potential risks (physical, psychological, emotional) to the participants in this project ?

b) What are the potential benefits of this project (e.g. to the participants, to society)?

7. Will informed consent of the participants be informed in writing? If not, explain why.

Attach a copy of the information consent form to be used.

8. How will you ensure anonymity of the participants and confidentiality of their data?

9. Describe your plans to provide feedback or a summary of the study to the participants.

10. Additional Attachments: Sample letters of consent, parent permission letters and pre-medical screening forms should be attached.

I have read the YSC Guidelines for Research with Human Subjects and agree to comply with the Guidelines.

Further, I agree to notify YSC or my regional science fair of any changes to this project.

Signature of Student Researcher _____ Date: _____

Signature of Student Researcher _____ Date: _____

Signature of Supervising Teacher _____ Date: _____

Safety and Regulations Officer Comments:
