4 – CANADA-WIDE SCIENCE FAIR

General Information

Description

The Canada-Wide Science Fair is a national exhibition and forum created by YSF Canada to showcase the achievements of Canadian youth participating in the National Science Fair Program. It is the premier event and pinnacle of achievement for students and teacher volunteers participating in this program.

CWSF goals

- Identify and develop student talents in science and technology.
- Build self-esteem for participants.
- Compare peer achievements in science and technology.
- Facilitate student networking and enhanced communication skills.
- Provide role models for regional school children.
- Leave a financial legacy in the community to promote future extracurricular science activities.
- Advance YSF Canada's position as the leading organization in Canada providing innovative extracurricular science and technology education programs for youth.
- Establish the reputation of the Host Community for educational support and hospitality.
- Develop a sense of national unity and good citizenship through science

Theme

The CWSF Host Committee is encouraged to develop a topical theme to customize their involvement in the CWSF and to unify the effort of the many parts. For example, the theme of CWSF '92 Sudbury was "Voyage of Discovery" whereas the theme at CWSF '93 Riviére-du-Loup was "Science-Go for it."

Mascot

A CWSF mascot is also highly desirable, particularly when it is associated with the region (e.g. The Beluga Whale of CWSF '93 Riviére-du-Loup, and the Woolly Mammoth of CWSF '95 Whitehorse).

Structure

Program

The CWSF, with arrival and departure days, is eight days in duration. It occurs every May with arrival and registration on Saturday or Sunday and departure on the following Saturday or Sunday immediately preceding the Monday, Victoria Day Holiday.

Arrival

The Host Committee meets arriving exhibitors and delegates at the airport or, for surface travelers, at the CWSF Registration Centre. Transportation is provided for air travelers from the airport to the fair site. Luggage and projects are included in these arrangements.

Registration

Registration occurs on arrival at the fair site and accommodation is assigned. Meal arrangements are explained at that time.

Set-up

Set-up of exhibits and safety checks must be completed by the deadline, set by the Host Committee in collaboration with the Judge-in-Chief and the NSFC.

Departure

Exhibits are usually dismantled and packed for return shipping on the following Saturday afternoon.

Judging

Two days are committed to judging. Division judging is held on Monday or Tuesday and Special Awards judging on Tuesday or Wednesday.

Photography

During the judging process, each exhibitor will be photographed with her/his project.

Awards Ceremony

Friday is awards day. It begins with local school students and VIPs visiting the exhibits in the morning. The Awards Ceremony is in the afternoon and a closing banquet is held that evening.

Events and Activities

The rest of the week is filled with special events and activities. There is a general briefing to set the guidelines for behaviour during the week. This is followed by an opening banquet to officially declare the CWSF in session. Student and delegate social and recreational activities are usually held in the free time between scheduled events. All scheduled events are to be concluded by 9:00 pm on nights prior to judging days to allow exhibitors a chance to get proper rest. The activities vary with the planning of each Host Committee.

Tours

It is the objective to have one major tour organized by the Host Committee to showcase a "noteworthy" local tourist attraction that is associated with the region. This is up to one day in length and is usually held Wednesday or Thursday. Mini tours of the Host university campus and special research venues may also be organized.

Workshops and Student Science Forums

Delegate workshops, also a feature of the CWSF, provide a forum for professional development. Presentations examine national issues in science education, or provide opportunities to learn from practitioners in industry.

Student workshops of a similar nature, project demonstration sites and student forums for the presentation of science papers on student projects are also being contemplated by YSF Canada for future CWSFs.

Space

The typical CWSF must provide space for a minimum 350 project exhibits each occupying a linear 1.2 metres wide, by 0.8 metres deep, by 3.5 metres from the floor. In accordance with Fire Marshal regulations, there must also be sufficient space for aisles and visitor circulation. A large arena or gymnasium currently meets these specifications.

Participation

Participants at the CWSF consist primarily of:

- the student exhibitors — the medalists identified at affiliated RSFs;
- delegates — the community volunteers in charge of RSF student exhibitors;
- the Host Committee and its supporting volunteers;
- the YSF Canada office staff, including the Executive Director;
- the YSF Canada National Chief Judge, the Deputy Chief Judge, the Grand Awards Judging Committee, and the Chairperson of the International Program Committee;
- the CWSF Chief Judge and the Division judges;
- the Special Awards judges;
- the foreign exhibitors and guests invited by YSF Canada through its International Program;
- the VIPs and sponsors invited by YSF Canada and the Host Committee;
- media representatives invited by YSF Canada and the Host Committee;
- the YSF Canada Board of Directors;
- the YSF Canada National Science Fair Committee;
- the Chairpersons and special representatives of other YSF Canada youth programs;
- the local student visitors; and,
- members of the future Host Committees.

Rules and Regulations

Eligibility

Student Exhibitor

A student must be under 21 years of age and registered in grades 7-12 (OAC in Ontario) or equivalent. CEGEP I students from Quebec are eligible, but community college students are not.

In situations where local culture and lifestyle typically lead to interruption(s) in a student's high school education, students 21 years of age for the duration of the Fair, will be allowed to participate at the CWSF, provided the application is approved by three members of the National Science Fair Committee (one member shall be the current chairperson plus one other executive member and one zone representative). The applicant must be registered as a full time high school student who has not completed a high school diploma or equivalent.

The student must submit a document from the principal/teacher clarifying why his/her education has been interrupted. The student will be eligible to receive any award for which the project qualifies.

School

The student may be registered in a public, private or parochial school in Canada, or may receive home instruction.

Affiliated RSF

Students must have won top honours in a regional or provincial science fair affiliated with YSF Canada for the current year.

Exhibit classification

Divisions

Exhibits are classified by divisions:
- Biotechnology
- Computing and Mathematical Sciences
- Earth and Environmental Sciences
- Engineering Sciences
- Life Sciences
- Physical Sciences

Project Types

Exhibits are also classified by type of project:
- An Experiment
- A Study
- An Innovation

(Please see page 4-5 for definitions of divisions and types of project.)

Categories

Exhibits are further classified by category:
- Junior (grade 7 and 8, Secondary I and II in Quebéc)
- Intermediate (grade 9 and 10, Secondary III and IV in Québec)
- Senior (grade 11, 12, OAC in Ontario, Secondary V and CEGEP I in Québec)

Group exhibits may be accepted with a maximum of two students. The category placement will be based upon the most senior member of the group.

Exhibits

General

An exhibitor may not present more than one exhibit each year nor display an identical project at any subsequent CWSF. An improved exhibit may be accepted again in competition. However, students may only use research completed since the last CWSF. Any continuing research must document substantial expansion of investigation and students will be judged on the current year's work only. An exhibit may be entered in more than one RSF affiliated with YSF Canada per season. However, it is only eligible to go to the CWSF from the first RSF (i.e. no exhibit may have more than one chance to go to the CWSF.

Dimensions

All exhibits, including all accessories, must be confined to a table or floor space not to exceed 0.8 meres, front to back; 1.2 metres side to side; and 3.5 metres maximum height from the floor. All measurements will be made from the outermost points, including framework and appendages, and will be verified during the safety check. Exhibits exceeding these dimensions must be modified or will not be accepted (see Exceptions below). Local conditions may dictate that 3.5 metres is too high for an exhibit. Every attempt will be made to relocate such a project.

Exceptions
From time to time, an exhibitor may wish to go beyond the normal limits of the regulation project display space (1.2m wide x 0,8 m deep x 3.5 m high) to demonstrate an aspect of their project. This can only be done with the approval of the Ethics, Safety and Animal Care Policy

Committee and may not give the exhibitor an unfair advantage. The following guidelines will govern these circumstances:

- The Host Committee and YSF Canada reserve the right to assign available display space to exhibitors equally and to exclude exhibits that may be dangerous to exhibitors, visitors and the premises.
- All material should be contained within the space when it is not being demonstrated. Students may not bring supplementary material to the display solely for the demonstration. To do so may give them an unfair advantage.
- Any demonstration that exceeds the regulation project display space may be limited to the judging sessions, or to the public viewing, at the discretion of the Safety and Rules Committee.
- Safety of people in the exhibit hall and of other exhibits must not be jeopardized by the demonstration. Thus, remote-controlled vehicles, which may present a tripping hazard, need to be slow and restricted to a small floor area. Powered aircraft, whether tethered or free-flying, are not allowed to be activated.
- Where project work utilizes materials or devices that exceed the regulation space, students may represent such devices through models, drawings, videos, etc. It is not necessary to replicate research results for the judges.

Simulation of hazardous materials

Exhibits involving hazardous materials and equipment (e.g. toxic and corrosive chemicals, lasers, etc.) should use simulation at the CWSF.

Backboard Materials

Displays are to be constructed of materials that are unlikely to ignite and in the presence of fire will not allow the flame to spread readily. Recommended backboards include wood and wood products at least 6 millimeteres (1/4-inch) thick, and ULC-approved display boards. Backboards constructed of other materials including corrugated cardboard, foam-core, project board, Styrofoam panels and Bristol board are not acceptable. Overlapping sheets of notes or graphs are to be stored in a data book, not stacked on the backboard. Panels can be painted with any common paint. No proof of source is required. All other coating materials must be approved by Underwriter Lab, and proof of such approval is needed (i.e. the can and its label).

All equipment must be supplied by the exhibitor or his/her RSF.

Damage

Although every effort will be made to prevent damage to exhibits, YSF Canada, the co-operating Host Committee or other sponsoring organizations or co-operating groups will accept no responsibility for loss or damage to any exhibit or part thereof.

Definitions of Divisions

A **Biotechnology** project 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 three subject fields; crop development, animal science, and microbials.

A **Computing and Mathematical Science** project deals with computing, mathematical models, innovative software and hardware design, or the use of math to solve theoretical problems.

An **Earth & Environmental Science** project has as its focus either a topic relating to planetary processes or the relationships of organisms to those processes, or between or among organisms.

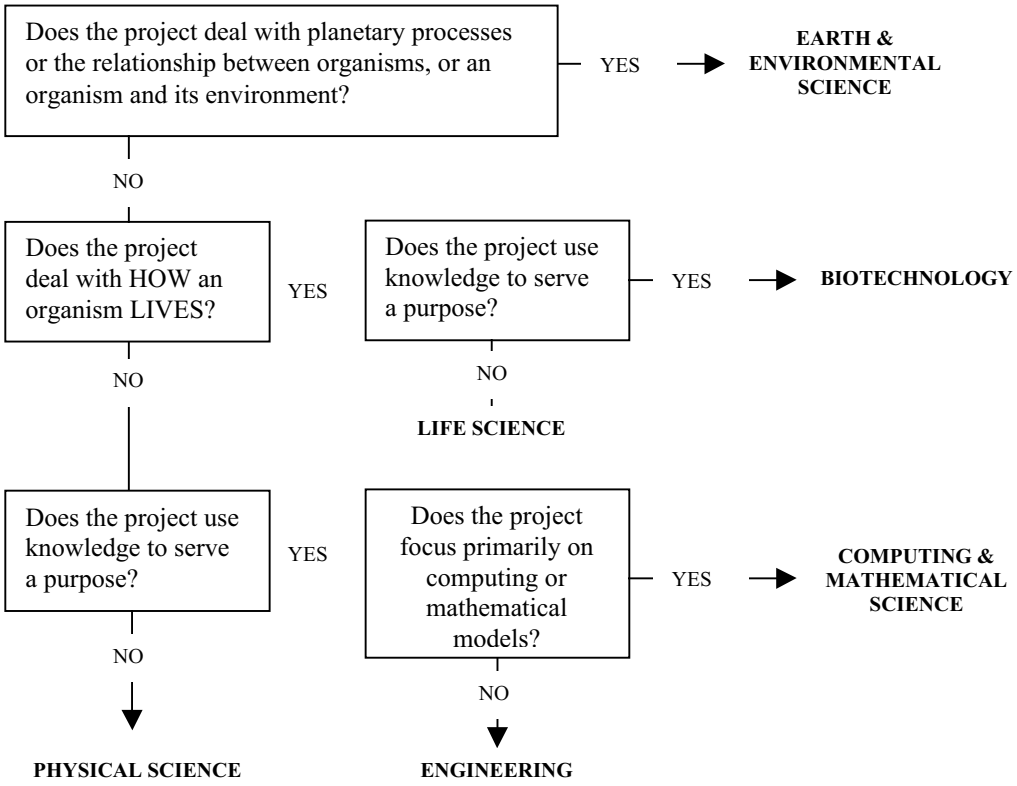
An **Engineering** project applies physical science knowledge to solve a problem or achieve a purpose.

A **Life Science** project examines some aspect of the life or life style of an organism.

A **Physical Science** project studies an abiotic phenomenon in order to understand the relation of identified factors, perhaps including a cause and effect relationship.

The Chief Judge may recommend a change of division to allow for the fairest adjudication of the students' work but the final decision regarding the division placement rests with the student exhibitor and his/her regional delegate.

Selecting a Division:



Elaboration on Divisions

Biotechnology

Within Biotechnology, crop development underscores that the interest is not just in plants, but in plants that are involved in an agricultural, horticultural or silvicultural (forestry) production. Projects in this area may investigate problems of herbicide tolerance, spacing, cultivation, irrigation, effect of soil variation, hybridization, etc.

Animal science projects would 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. Study-type projects should be considered by pupils with an interest in animal science. Possible topics include enhancement of animal production, reproductive technologies, genetics and transgenics, animal health, housing, training and interactions. Microbial projects consider how microbials are affecting productivity in agriculture, horticulture and forestry. Possible topics include plant growth-promoting rhizobacteria, biological weed and fungal control, bio-fuel cells, etc.

Projects which focus on the acquisition of knowledge about how something lives should be categorized as Life Sciences, not Biotechnology. The distinction is similar to that between

Physical Sciences projects and Engineering projects. In both cases projects in the latter division deal with an application of knowledge to solve a problem. Often the discriminating factor is in the student's conceptualization of the project. There will be situations where the choice is not clear.

Computing and Mathematical Science

Computing Science
Computing sciences projects are applied science and technology projects that concentrate on the development of computer equipment or programs. They focus mainly on computers, their languages, their software, databases and their functions.

Projects that store and handle data should be entered in their data-specific division. On the other hand, if the project highlights a breakthrough technique that uses the computer to accomplish this task, then data are of secondary significance and the project should be entered in the computing and mathematical science category.

Mathematical Science
Mathematical science projects seek to demonstrate applications of mathematics (i.e., the search for a mathematical model) or to solve a theoretical problem. For example, in attempting to predict the shape of cacti, the use of mathematics would be central to the project. The problem provides a context for the exploration of pattern and the search for a mathematical model. Some areas of investigation in this category include algorithms, operational research (application of mathematical and computing science to solve planning or operational problems), and statistics.

Distinguishing Computing and Mathematical Science projects from others
Each year regions and students have considerable difficulty placing projects that involve a computer. Where, for example, should a project be placed in which the student has developed a piece of software that simulates the behaviour of forest fires? On one hand, the development of a software application is clearly eligible for the Computing and Mathematical Science division, but the parameters and underlying algorithms require a significant knowledge of environmental science. If this project was judged by a computer software engineer, he/she would likely focus on the design and efficiency of the code, the user interface, and the application of computing technology to a real-world problem. Meanwhile, an environmental scientist might judge the project according to accuracy and applicability of the simulation, the inclusion and control over appropriate parameters and, the student's knowledge of forest fire dynamics.

An argument can clearly be made for the value of each judge's assessment in the overall evaluation of the project. However, the student must choose a division on the basis of where he/she wishes the emphasis of judging to fall. If the student prefers to be evaluated primarily on his/her application of computing science to the problem- the algorithm and hardware/software design- then he/she should enter the Computing and Mathematical Science division. If his/her preference is for the project to be evaluated as an innovation in a particular field of science, it should be entered in that division.

When considering entering the Computing and Mathematical Science division, CWSF participants should be encouraged to consider which aspect of the project they believe best showcases their knowledge and skill- their software/hardware design, or their work in biotechnology, earth and environmental sciences, engineering, life or physical sciences. Their response is significant as we, and they, want the judging to focus on the project's strengths.

Further, while the development of interactive multimedia, relational databases, Internet web sites, analog/digital interfaces, control technology (robotics), etc. were once the domain of the CWSF's finest, they are now standard fare in most Grade 7-12 curricula across the country. With this in mind, potential entrants to the CWSF Computing and Mathematical Science division should also consider: Is this project's software/hardware design innovative, well documented and significantly advanced beyond the expectations or work of most others at a similar age/grade? If the student believes that the strength of his/her project is in software/hardware design and that the work is innovative and beyond the normal expectations

of his/her peers, then the project may be entered confidently in the Computing and Mathematical Science division. Otherwise, the student may be more successful entering one of the other divisions. In many cases where the Computing and Mathematical Science division first seems appropriate, a closer examination of the strengths and the focus of the student and the project suggest another division. However, it is important to keep in mind that the final decision regarding division placements rests with the student exhibitor and his/her delegate.

Earth and Environmental Science

Projects in this division can include the pursuit of knowledge in any of the following scientific disciplines: geology, mineralogy, physiography, oceanography, limnology, climatology, seismology, geography, and ecology. Earth and environmental science involves the study of pollution (air, water, and land) its sources and its control. It also can involve studies of biotic and/or abiotic factors in an environment where such studies enhance our understanding of biological relationships and abiotic cycles.

Studies dealing with resource management or sustainable development would fall into this category. Examples of such studies might include capture/recapture studies for estimation of population densities, determination of bioproductivity in a specific ecosystem or niche, studies of plate tectonics and examination of mineral cycles (e.g. Salt mills in the oceans).

Engineering

Engineering projects investigate the utility of innovations and inventions. Although a complete engineering project will include an outline of the need, the development of the innovation and some work on introducing the innovation to the community, many projects focus on just the development phase.

Engineering projects can focus on a new process, or a new product. A study of Bernoulli's principle would be Physical Science, while the application of such a principle to aerodynamics and wing design would be Engineering.

Life Science

Life Science projects include botany and zoology, as well as psychology and kinesiology.

Examining plant growth, animal behaviour, human perception or the mechanics of human movement are examples of Life Science. Some phenomenon, such as digestion, are both Life Science and Physical Science. To determine the best placement, consider whether the exhibitor's intent was to study the chemistry of the process, or the role of the process in the life of the animal (eating, production of enzymes, handling of waste, etc.) Does the exhibitor's view of the problem extend to include the organism?

Physical Science

Physical Science projects study the relationship of factors in fields such as physics, chemistry and astronomy. Comparison testing of projects, as it is descriptive, would be included. Some projects entered as physical sciences may be more accurately entered as engineering. For example, experimenting to find "Which Materials Absorb Oil Best?" is only physical sciences, although there is an implied application in the work, such as that it is almost "Which Materials Can Absorb Oil From an Oil Spill?" Determining the exhibitors intent should help clarify.

Interdisciplinary Projects

Many projects are interdisciplinary and therefore, seem to fit into more than one division. The student(s) must choose only one of the divisions. This decision should be based on the subject area in which the student is most knowledgeable and best able to communicate their knowledge to the judge. Through the interview process, judges look for both depth and breadth in all projects and are encouraged to consult with other judges when a project incorporates another field outside their area of expertise.

Chief Judge's Recommendation

The Chief Judge may recommend a change of division to allow for the fairest adjudication of the students' work but the final decision regarding the division placement resets with the student exhibitor and their regional delegate.

Types of science fair projects

The judging of "scientific thought" requires special attention since a variety of different types of projects exist. The most common types of science fair projects are experiments, studies and innovations. Projects of each type are equally capable of winning top awards at the fair, providing they meet the necessary criteria.

Experiment

This is traditionally the most common type of science fair project in the life or physical sciences divisions. A winning exhibit of this type should involve an original scientific experiment to test a specific hypothesis in which the student recognizes and controls all significant competing variables and demonstrates excellent collection, analysis, and presentation of data. The judge should also realize that it is not regarded as essential that any significant positive findings result from the project. It must be recognized that it is the design rather than the results that are most important.A Study

This type of project involves the collection and analysis of data from other sources to reveal evidence of a fact, situation or pattern of scientific interest. This could include a study of cause and effect relationships or theoretical investigations of scientific data. A winning exhibit in this area must be able to demonstrate that the methods used to obtain the original data involved sound scientific techniques and controls, and demonstrate insightful analysis.

Study

This type of project involves the collection and analysis of data from other sources to reveal evidence of a fact, situation, or pattern of scientific interest. This could include a study of cause and effect relationships or theoretical investigations of scientific data. A winning exhibit in this area must be able to demonstrate that the methods used to obtain the original data involved sound scientific techniques and controls, and demonstrate insightful analysis.

Innovation

A project of this type would involve the development and evaluation of new devices, models, techniques or approaches in fields such as technology, engineering, or computers (both software and hardware). A winning project should integrate several technologies, inventions, or designs and construct an original innovative technological system that will have commercial application and/or human benefit. It must demonstrate how the innovation was designed or developed on the basis of a sound understanding of the scientific, engineering, or technological principles involved.

Project Summary

The project summary requires the students to write a concise summary of the project using a scientific style of reporting. Students are required to select only what is important, and state it in a concise way. Eight copies must be sent — six copies will be distributed to judges, one copy will be retained by the Host Committee (CWSF Chief Judge), and one copy is for YSF Canada. Each individual region should send its summaries. **The deadline for submission is advertised in the CWSF Registration Booklet.**

Each exhibitor will be required to provide a project summary of **no more than five** 8.5 x 11-inch pages, word-processed or typewritten and double spaced on one side only. The pages must be stapled together with the project highlight sheet supplied by YSF Canada. An inside title page should not be included, nor should the pages be enclosed in any cover or folder.

Appendices, other than a bibliography, are not permitted in the project summary. Reports of excessive length will be penalized, and only the first five pages will be read.

A bibliography is mandatory: All the sources consulted must be mentioned (volumes, articles, audio-visual, documents, web sites, interviews, etc.). Quotations and sources within your report must be clearly identified. This bibliography is to be included as an appendix to your five page summary. Exhibitors must also complete a form, which is part of the registration package, detailing any outside assistance provided by others, see Appendix L.

A complete project summary includes:

- Background, Purpose and Hypothesis: why the project was done and what was hoped to be achieved.
- Procedure: very brief outline of the significant materials and methods used.
- Results and Conclusions: no raw data or observations are to be included.
- Acknowledgements: recognition of those individuals, institutions and businesses that provided significant assistance in the form of guidance, materials, financial support or facilities. This must include any reference materials that are not the student's.
- Proof of requirements, when specified by YSF Canada regulations.
- Bibliography as an appendix to the 5 pages.

If an earlier version of the project was submitted in another year, the highlight sheet must outline the changes or modifications made by the exhibitor(s).

This summary will be used in judging. It is worth 10 of the 100 judging points and may subsequently be published by YSF Canada or award sponsors. The summary must be kept brief and to the point: judges cannot be expected to adequately digest more than a few pages of information at a time.

Safety regulations

General safety

- Safety of the public is a prime consideration. Suitable precautions must be taken to prevent the possibility of personal injury, property damage, and the legal action that could result from a lack of concern for safety.
- Exhibits must be sturdy, with moving parts firmly attached and approved for safety. Each exhibit must be self-supporting. Electricity (AC 110 Volt, 60 Hertz) will be supplied, if requested, but no gas or water outlets will be provided. Switches and cords must be of the approved variety and circuits must be protected by fuses or circuit breakers. Cell or battery-fed circuits should be both safe in design and operation.
- All sharp edges or corners on prisms, mirrors, enclosures, and glass and metal plates must be removed or otherwise protected.
- The length of hoses or extension cords is to be kept to a minimum and out of the way to eliminate tripping hazards. Use tape for securing.
- Aisles and exits should not be obstructed.
- Moving exhibits (e.g. radio-controlled vehicles, robots) should be restricted to the regulation display space. The Host Committee will try to provide an exhibition area to safely demonstrate projects that require more space than the regulated exhibit display space.
- In addition to the regulations noted here, there may be local municipal or provincial regulations that must be followed. The Host Committee shall share any such restrictions with RSFs in September preceding the fair.
- The exhibits must comply with all YSF Canada use of humans and use of animals regulations as outlined on pages 4-12 to 4-17, and the CWSF Safety and Regulation Checklist, contained in Appendix C.

Fire safety

- Certain restrictions have been defined on the construction of displays to reduce the possibility of accidental fire during the fair, and in the event of fire, to allow for safe evacuation of the building.
- The Host Committee will be responsible for ensuring that fire extinguishers of proper size and rating are available in the exhibition area. The Host Committee will establish a fire evacuation plan, and an exhibit hall layout that minimizes long rows in order to reduce flame spread.
- Combustible material must not be used near a heat source.
- Open flames must not be used.
- Smoking is not permitted in the exhibit area.
- Packing material must not be stored in the exhibit hall.

Chemical safety

- No containers of toxic or flammable chemicals are allowed.
- Dangerous chemicals are not allowed—this includes prescription drugs and over-the-counter medication.
- Substitutes for toxic and corrosive chemicals must be used. Common salt, for example, can be used to simulate chemicals such as ammonium nitrate. Water may be used instead of alcohol, ether, and other highly flammable liquids. Molasses can be used to represent petroleum products. When chemicals are simulated, they should be labeled with the names of the substance they represent preceded by the word "simulated." No project will be penalized because the key (but potentially dangerous) components were not on display.

Electrical safety

- As low a voltage as possible must be used.
- A ground fault interrupter for electrical leaks and faults must be used. The Host Committee will ensure that such units are installed on the main electrical control panel serving the entire exhibit area.
- At the end of the day or the viewing period, all electrical exhibits must be disconnected, and power bars switched off.
- Only CSA-approved extension cords in good repair shall be used.
- Where practical and necessary, it is recommended that pilot lights be used to indicate that the voltage is on.
- Cord-connected electrical appliances should have a 3-wire conductor with ground or be CSA-approved.
- An insulating grommet is required at the point where the service enters any enclosure.
- Electrical devices must be protectively enclosed as far as it is practical.
- Any enclosure must be non-combustible. All non-current carrying metal parts must be grounded.
- No exposed live parts over 36 volts are allowed. Current (amperage) must be low so as not to cause any discomfort or danger if touched.
- Wet cells shall not be used because of the hazardous chemicals involved.

Structural and mechanical safety

- Exhibits must be of a safe design with adequate stability to keep from tipping.
- Dangerous moving parts such as belts, gears, pulleys and propeller blades must be suitably guarded.
- Pressurized vessels should have a safety valve.
- Compressed gas cylinders are not allowed.

Use of firearms and hazardous equipment

YSFC and Regional Science Fairs allow students to conduct research involving hazardous equipment and firearms as long as students adhere to federal and provincial/territorial regulations and guidelines that are designed to protect the safety of the researchers. The relevant safety checklist is provided as Appendix K.

Firearms

- 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.
- Minors can not possess restricted firearms or cross bows.
- As of January 1, 2003, firearms used for science projects must be registered and the person possessing the firearm must have, at all times, the registration certificate with the firearm.
- 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.
- 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.*

Volatile materials

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.*

Safety and supervision

Any experimental design involving firearms, and/or hazardous devices, must be passed through the Ethics, Safety and Animal Care Policy Committee to ensure compliance with regulations and restrictions. If necessary, YSF Canada will refer the project to the authorities cognizant of current regulations.

Use of hazardous equipment, dangerous goods, explosives and firearms requires proper supervision by a Designated Supervisor. This Supervisor must be directly responsible for overseeing student experimentation. In all cases, the Designated 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 Designated Supervisor must have reached the age of majority (18 years). The Supervisor must provide proof to the Regional Science Fair Safety Committee of his/her licensing and expertise in the use of a firearm, volatile substance or device, and/or explosives BEFORE the project commences.

For firearms requiring federal and/or provincial/territorial permit or registration, the student or 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 Ethics, Safety and Animal Care Policy 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, Safety and Animal Care Policy Committee with the exhibitor's proposal in advance of beginning the experiment.

Exhibitors 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, Safety and Animal Care Policy Committee in advance of beginning the experiment.

It must be remembered that firearms, ammunition, dangerous goods or explosives may not be displayed as part of the project at the CWSF—students are advised to take photos of the equipment for display purposes. Further, exhibitors may not display images of humans or animals that have been injured by the use of firearms or explosives: such images are deemed to be unsuitable for general public viewing and do not add to the scientific nature of the project.

When considering a project which involves the use of firearms, ammunition, dangerous goods or explosives, it is strongly suggested that exhibitors 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.

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, Safety and Animal Care Policy Committees in reviewing a project include:

- Possess, trade, transfer or give as a gift a firearm to a person without a FPC or proper class of acquisition license.
- Unlawfully making an explosive.
- Possession of a weapon dangerous to the public peace.
- Unlawful storage of a firearm, ammunition or explosive.
- Pointing a firearm.
- Careless use of a firearm.
- Criminal Negligence causing bodily harm or death.
- Fail to sign vehicle properly that a dangerous good is being transported.

Other considerations may involve other Provincial and Federal acts such as the *Environmental Protection Act, Migratory Bird Game Act* and *Canada Shipping Act.* Students and the Regional Ethics, Safety and Animal Care Policy Committee are responsible for knowledge of and adherence to all Municipal, Provincial and Federal laws governing the materials and the use of those materials.

Display of X-ray or radiation producing equipment

If an exhibit uses x-ray equipment or any other equipment capable of emitting high-energy radiation, registration of ownership with the student's provincial government is **required**. Plans for structural protection must be submitted to the provincial government and approval requested, for which both the owner of the device and the owner of the building are responsible. A formally trained and qualified individual must be identified to exercise supervision of the operation and to take responsibility for safe performance. It will be an obligation of this individual to satisfy the Chief Inspector by exposure rate measurements or other suitable documentation that the operation is safe. Projects involving voltages above 10kV should be considered to pose a potential x-ray hazard.

Lasers and x-ray or radiation-producing equipment may only be operated during judging periods.

Microorganism safety and biohazards

The following hazardous biological materials may not be displayed at the CWSF:

- Radio-isotopes or compounds containing radio-isotopes at activities above normal background.
- Biological toxins
- Micro-organisms. The use of mixed cultures obtained from the environment (e.g., soils, mouth swabs) is acceptable for experimentation, but not for display.
- Cells or tissues infected with animal or plant viruses.

- No cultures are allowed for exhibition. Photographs or simulated cultures may be used.
- Experimentation involving hazardous materials must be carried out under controlled laboratory conditions and supervision. The name and qualifications of the supervisor should be specified.
- No plant tissue, soil or material which could decompose shall be exhibited at a CWSF.

Recombinant DNA and biotechnological safety

Projects involving the manipulation of recombinant DNA molecules or animal viruses are allowed if conducted under qualified supervision. Evidence of this supervision, including the supervisor's name, institution, and qualifications must be included in the "Contributions by Others" form (Appendix L) and must be available at all times during the fair.

Biotechnological investigations involving enzymes pose risks of allergic reactions. Work involving DNA technology can be accomplished safely if simple precautions are taken. The use of DNA is, in itself, usually safe, but hazards can arise from chemicals and electrical equipment employed in the manipulation of DNA. Extremely hazardous chemicals, such as ethidium bromide, used to stain DNA, should be avoided. Electrophoresis of DNA fragments should use low voltages or equipment that prevents access to connections at high voltages.

Live tissue samples used in such investigations must be taken either from a continuously maintained tissue culture line already available to institutional researchers, or from animals already being used in an on-going institutional research project. Proof of where such material has been acquired (invoice or letter from supplier) must be available at all times during the fair. These animal tissues may only be displayed at the Fair if they are prepared and sealed (lamella, plastination).

Animal care

General

Regulations pertaining to projects involving animals and the display of those projects reflect different standards. While student investigations of biological processes are to be encouraged, they are subject to the same laws, ethics, and regulations as any other research. In the *Criminal Code of Canada*, the *Animals for Research Act of Ontario*, and similar legislation in other provinces, all vertebrates are afforded protection. Also, schools and science fairs are explicitly included in the definition of "research facility" in Ontario. The CWSF regulations described here are written in view of these laws.

The display of a project is further restricted by the YSF 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 and experience on the part of the student investigators and their immediate supervisors. There is also a desire (on the part of the general public and research community) to maximize the efficiency of animal use and to impress this on the students, especially regarding scientific merit and value. RSFs should adhere to the following regulations and take steps to ensure that schools within their region are thoroughly familiar with them and conform to them in school fairs. The regulations must certainly be adhered to for the CWSF, so it would be in the best interests of all concerned if the guideline were followed faithfully from the outset.

Visiting projects from other countries should be informed of these regulations sufficiently before the fair so that they do not display projects contradictory to the Canadian regulations and milieu. Biological experimentation is subject to legal restrictions including, among others:

- Criminal Code of Canada, Section 446, Cruelty to Animals;
- Convention for International Trade on Endangered Species;
- Canadian Wildlife Service;
- *Health of Animals Act*, Bill C-66
- *Guidelines of the Canadian Council on Animal Care*;
- *Animals for Research Act* (Ontario); and
- *Regulations for Housing, Care and Treatment of Animals Used for Biological & Medical Purposes* (Alberta)

Regulations

Any experiments involving human beings and other vertebrate animals may be passed through the Ethics, Safety and Animal Care Policy Committee to ensure compliance with the above-mentioned regulations and restrictions. If necessary, the YSF Canada will refer the project to appropriate authorities cognizant of current regulations and relevant aspects regarding scientific merit, for guidance and suggestions for performing the work.

Lower orders of life (bacteria, fungi, protozoa, insects, plants and invertebrate animals) can be used in experimentation to reveal valuable biological information relevant to the higher orders.

Vertebrate animals (birds, fish, mammals, reptiles, amphibians) are not to be used in any **active** experiments which may in any way be deleterious to the health, comfort or physical integrity of the animals.

Observation of wild animals, animals in zoological parks, farm animals and pets is permitted. Observation of wild animals falls within the definition of hunting (or fishing) in some jurisdictions. Students should also obtain advice and permission from conservation authorities to ensure that they are not interfering with the animals' normal lifestyle and well-being, and to ensure that their project is permissible. A permit may be required.

For example, 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, as long as the animal is not stressed before offering the choice (e.g., by withholding food).

Studies of embryos are similarly restricted to observation, without intervention with drugs or other chemicals, or manipulation of physical conditions to test the resiliency of the animal. If eggs are hatched, the offspring are to be raised normally. Otherwise, all embryos must be destroyed by freezing at 85% of the normal incubation period (18 days for chicks).

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, but should not be displayed at the fair. Evidence of the source of the materials (e.g., bill of sale) must be available at the display.

The acquisition of animal parts should involve either the services of biological supply houses or research facilities, or involve salvage from other sources. Salvage from found carcasses (e.g., road kills) is discouraged due to serious health risks and other constraints.

- If the acquisition involves salvage from another research project, where the animal has been killed for other legitimate purposes in a legal and humane manner, 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 display.

- 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, and should be displayed at the project.

Display of animals & 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.

Live microorganisms and vertebrate or non-vertebrate animals shall not be included in the display, although appropriate photographs may be available in the report.

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 section 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 available for viewing upon request, but may not be obviously displayed.

Guide for ethics review of human research

Ethics review requirements

The Foundation requires that all research involving human participants conducted as a project competing in the CWSF, or an affiliated RSF, satisfy ethical and safety rules. This ensures that the welfare and safety of the participants as well as the researchers are considered and protected. The ethics review process should involve the student's supervising teacher, members of a bona fide research institution or hospital practiced in the ethics of human research, or the YSF Ethics, Safety and Animal Care Policy Committee. This will provide the researchers with an appreciation for the requirements and safeguards existing in law regarding experimentation and humans.

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.

Ethics reviews

The Foundation's Ethics, Safety and Animal Care Policy Committee invites inquiries regarding the ethics of any planned human (or animal) research project. It will assist in the development of an acceptable research design. It will also review all projects entered in the CWSF to ensure they are ethically approved and thus eligible for competition.

Definitions of human research, researcher, 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 risks as the research is being carried out.

The Application Form

The supervising teacher supervises and accepts responsibility for the safe and ethical conduct of the project.

The student researcher(s) will collect the data. All students involved must be listed even if assisting the principal investigators. The title of project should describe the focus of the project, and also be succinct. See Appendix J for a sample application form.

Summary of Proposed Research

The purpose

The purpose describes the reason for conducting the project, and briefly outlines literature which has shaped the project proposal.

The participants

The participants who will be involved should be described with respect to age range, gender, 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 receive undue pressure to volunteer as research participants, and are to minimize this perception. Members of distinct cultural groups, legally incompetent people and children are example 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.

Procedures

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 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. Oral and topical applications of test materials are the only acceptable methods of administration. 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 medial supervision of the testing. The 1986 American College of Sports Medicine Guidelines for Exercise Testing chart is offered as a common guideline. For non-invasive studies, attach a copy of all test materials to the Research Proposal form. Indicate the time required for participation in the study.

AMERICAN COLLEGE OF SPORTS MEDICINE GUDELINES FOR EXERCISE TESTING						
	Apparently Healthy		**Higher Risk**		**Diseased**	
Age	<45	45+	<35 without symptoms	35+ with symptoms	Any Age	Any Age
Maximal exercise test recommended before exercise program	No	Yes	No	Yes	Yes	Yes
Physician attendance recommended for submaximal testing	No (<35)	Yes	Yes	Yes	Yes	Yes
Physician attendance recommended for submaximal testing	No	No	No	Yes	Yes	Yes

Source: *The American College of Sports Medicine: Guideline for Exercise Stress Testing* and *Prescription, 3rd ed. Lea and Febiger, 1985*

Anticipated risks and benefits of participation

A complete and clear description of all known or anticipated risks and benefits of participation, whether physiological, psychological, economic and/or social in nature. 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.

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:

- name(s) of investigator(s)
- school, supervising teacher, telephone number
- description of the procedures
- description of risks and benefits from participating
- details of time commitment
- details of any plan to re-contact participants
- details about their right to withdraw at any time without fear of reprisal
- information about how to communicate a decision to withdraw from the study
- statement that the project has been reviewed and received ethics approval from whatever authority was consulted.

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.

Confidentiality and anonymity

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.

Feedback

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's 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.

Sample letters of consent, parent permission letters and pre-exercise medical screening forms are available on request.

Appreciation and acknowledgement 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.

Scientific Merit

A science project should strive to have true scientific value and originality.

Ethics policy

A YSF Canada Ethics, Safety and Animal Care Policy Committee shall establish policy and shall review all projects for compliance in these areas of concern.

Attendance

An exhibitor must be in attendance at his/her display at all times during the period that the CWSF is open to the general public, unless a special arrangement is made with the CWSF officials responsible for exhibits.

Display of ISEF participation and prior awards

In order to ensure fairness of judging, CWSF exhibitors are not to identify participation in the ISEF, and/or awards won in any other science fair, in any promotional form (verbal, written, clothing) during the judging process.

Conduct

Student exhibitors are responsible for their behaviour at the CWSF and must follow the rules set forth by the adults-in-charge who accompany them from RSFs to the CWSF and by the CWSF Host Committee.

Failure to meet these standards of conduct can result in the exhibitor being sent home at his/her own expense.

Disqualification

Disqualification may occur prior to, or at any time during and after the fair. Upon receipt and screening of project summaries, should a Host Committee suspect a project is unacceptable, they will initiate an investigation. They must communicate with the chairperson of the National Science Fair Committee, the sponsoring RSF, and YSF Canada advisors about their concern. The Chairperson of the NSFC represents YSF Canada on matters of disqualification and, after thorough discussion with the appropriate YSF Canada officials (Executive Director, national Judge-In-Chief, Chairperson of the Ethics, Safety and Animal Care Policy Committee), communicates such a decision to the sponsoring RSF and the Host Committee. Should a similar concern be raised at any time during or after the fair, the same parties will meet to attempt to resolve the issue if possible. Failing satisfactory compliance, disqualification may occur. Reasons for disqualification of a project include, but are not limited to: incorrigible safety and size violation; violation of animal use regulations; and/or plagiarism.

Students may be disqualified from the fair for conduct injurious to the moral tone of the fair and/or behaviour that puts other people or their property at risk.

If a student is returned home after disqualification, the expenses for that trip will be the responsibility of the sponsoring RSF. Refunds, if any, from canceling a flight booked through the CWSF Travel Plan will be credited to that region. Reimbursement of registration fees will be made at the discretion of the Host Committee after considering fixed costs and expenses already paid on behalf of the exhibitor(s). Any student disqualified after the fair will forfeit all prizes and moneys awarded to him/her.

Appeal

A student, disqualified in violation of animal use regulations, may appeal his/her case to the Ethics, Safety and Animal Care Policy Committee.

When in doubt, RSF representatives should seek an advance ruling on the project from YSF Canada.

A student, disqualified for inappropriate conduct or behaviour, may appeal to the chair of the National Science Fair Committee. As soon as possible, but within 30 days of receipt of the appeal, the current NSFC Chair will convene an Appeal Tribunal consisting of the NSFC Zone Representatives not representing the student's zone, the YSF Executive Director or President, and the current NSFC Chair who serves as tribunal chair. All information from the original investigation shall be made available to the tribunal by the NSFC Past Chair who made the disqualification, the Host Committee Chair, the Zone Rep. for the students' region and the students' delegate. A successful appeal shall be limited to the reinstatement of prizes and monies awarded to the student, reimbursement of the balance of costs incurred by the region for the extra trip home, notice of the successful appeal to the parties involved, and a written apology to the student and his/her parents/guardians.

Participation and Responsibility

RSF participation at the CWSF

Class of Fair

The maximum number of participants permitted from an RSF at the CWSF is determined by a formula approved by YSF Canada. This formula is based on the size of the school student population in the region (Grade 7-12 or equivalent including public, private and separate schools).

Conseil de développement du loisir scientifique

An annual agreement between YSF Canada and the *Conseil de développement du loisir scientifique* permits regions in Quebec that participate in *Super expo-sciences Bell* to pool their eligible participants and to send a specified number to CWSF.

Regional participation formula

Eligible Student Population Grade 7-12 or equivalent	Maximum Number of Exhibitors	Minimum & Maximum Number of Adults
under 1,000	0	0
1,000	4	2
4,000	5	2
11,000	6	2
18,000	7	2
25,000	8	2
32,000	9	2

Eligible Student Population Grade 7-12 or equivalent	Maximum Number of Exhibitors	Minimum & Maximum Number of Adults
39,000	10	2~3
46,000	11	2~3
53,000	12	2~3
60,000	13	2~3
67,000	14	2~3
74,000	15	2~3
81,000	16	2~3
88,000	17	2~3
95,000	18	2~3
102,000	19	2~3
109,000	20	2~3
116,000	21	3~4
123,000	22	3~4
130,000	23	3~4
137,000	24	3~4
144,000	25	3~5
151,000	26	3~5
158,000	27	3~5
165,000	28	3~5
172,000	29	3~5
179,000	30	4~5
186,000	31	4~5
193,000	32	4~5
200,000	33	4~5

YSF Canada's responsibility to the RSF leading up to the CWSF

- Prepare and distribute the CWSF Registration Packages including the CWSF Registration Booklets, the registration forms, awards description, etc.
- Coordinate the CWSF Travel Plan.
- Liaison with Host Committee and pass on any pertinent information to the Regions.
- Respond to concerns, inquires and requests from the Regions. Monitor their progress in meeting deadlines and assist them whenever possible.

Guests

Guests at the CWSF are guests of either the Host Committee or YSF Canada. These individuals are attending the fair for a specific purpose related to the business of the fair. Regional Fairs are not allowed to bring guests to the CWSF, except where medical or cultural reasons require the Region to send an adult in addition to the number allowed by the class of fair. Regions who feel they must bring a guest for one of these reasons must apply to the Host Committee for permission to register an individual as a guest. Approved guests will be required to register as a full participant at the fair and are required to participate in the Travel Plan.

Region's responsibilities leading up to the CWSF

Registration

The Regional Science Fair will arrange for and pay all costs involved in: transportation (fee is determined through the CWSF Travel Plan on an annual basis); accommodation (registration fees are set by each Host Committee to cover meals and accommodation); and the shipping of projects to, from, and at the CWSF.

The RSF will also mail all registration forms and project summaries on behalf of the exhibitors.

These arrangements may be delegated to one or more specific committee members. Definite deadlines are involved, and participation in the fair will depend upon things being done correctly and on time.

Due to tight schedules (e.g., safety checks, awards ceremony), late arrivals and early departures of either exhibitors or chaperons will not be considered.

Registration deadline

Regions must ensure that all forms and fees are sent to the YSF Canada and the Host Committee, as appropriate, by April 20 (exact date may vary).

If a regional fair is to be held close to this date, please telephone and/or fax the names of the air travelers directly to the travel agent as soon as they are available. Themoney should follow to YSF Canada immediately. The tickets will then be sent to the delegate by courier. All registration materials should be sent to the Host Committee and YSF Canada by courier as instructed in the Registration Booklet.

Delegates and alternates

RSF delegates and the NSFC meet annually at the CWSF to discuss science fair policy and make suggestions in the form of motions or recommendations. In this way, RSFs assist in the establishment of science fair policy in Canada.

Each region may have one voting delegate and one alternate at the annual Delegates Meeting. In addition, each region must have at least one adult as a chaperon/delegate with the students. The alternate delegate can substitute for the voting delegate in cases of illness or absence. A region may not be represented at the Delegates Meeting by the delegate of another region. Regions shall certify their delegate when they send in the registration forms for the CWSF.

Wherever a provincial or territorial science fair organization includes a coordinating officer, that officer may register at a CWSF as a delegate with the right to participate in discussions related to the operation of regional science fairs and the CWSF and to vote on matters arising from such discussions.

Prior to leaving

- Delegates should get together with their exhibitors and projects to determine category and divisions and assist exhibitors in self-nominating for special awards (those students who fail to self-nominate for special awards will not normally be considered).
- Regional delegates must ensure all necessary forms and fees are received by **April 20** (exact date may vary).
- Delegates should examine all projects before shipment to avoid the possibility of disqualification or major reconstruction. If there is doubt about a project, the Ethics, Safety and Animal Care Policy Committee should be consulted. Projects rejected or disqualified will not be displayed at the CWSF.

- Delegates should meet with parents and students to get to know each other and find out what the parents expect. All dates and deadlines should be communicated, and students should be told what to expect at the CWSF.
- Delegates should ensure that students are ready and have projects completed and properly packaged. All luggage, projects or other packages should be properly identified.
- Delegates should meet with their RSF committee to review the Delegates Meeting agenda. Delegates must be prepared to express their region's opinions.
- Student exhibitors often find a conflict in dates between the CWSF and the writing of special qualifying examinations (i.e., International Baccalaureate). Should this situation occur, the Delegate should contact the Host Committee. It is the responsibility of the Host Committee to arrange for these examinations to be written at an accredited local institution.

Any concerns about any particular item should be addressed to YSF Canada or the region's Zone Representative as soon as possible.

At the Canada-Wide Science Fair

Delegates are responsible for the well-being of their exhibitors. By law, a teacher or supervisor's responsibility toward the students in his/her charge is that of a prudent parent. Students are away from home, possibly for the first time, so delegates should be on hand.

Delegates must control the activity and behaviour of their exhibitors and help to uphold all the rules and regulations of the CWSF. If problems arise, CWSF Committee members should be contacted for assistance. Students must be accompanied during tours.

A delegate representing his/her regional fair is to represent the region's opinions and vote at the delegates Meeting. Only the regional delegate and alternate may represent a region and contribute to these discussions (see Delegates Meetings at the CWSF, page 4-24). Anyone may attend these meetings as an observer only (may not contribute to discussions). Only the region's delegate has a vote at the Delegates Meeting.

Delegates and alternates are expected to attend science fair workshops where formal and informal discussions will be held.

Notes:
- Regions are asked to submit to YSF Canada names of persons willing to serve as bilingual judges at the CWSF.
- No region may set up a hospitality room or sell articles at the CWSF, unless they are hosting an upcoming CWSF and wish to promote the event.

End of fair

- Exhibitors must have their exhibits properly packed and labeled, ready for shipping.
- Students must be accompanied home.
- Delegates must report back to their Regional Science Fair committees. Delegates should pass on any new ideas or suggestions picked up regarding science fairs, and ways to improve their fairs.

Exhibitors' responsibilities and participation at the CWSF

- All exhibitors are to be at their projects during the assigned times. Exhibits will be "on display" at specific times during the fair. Appropriate behaviour will ensure that visitors will form positive opinions about the young people.

- Any exhibit infraction shall be pointed out to the delegate responsible for that exhibitor. Changes brought forward shall be the delegate's responsibility.
- Each exhibitor is expected to attend all tours and events that are part of the planned program of the CWSF.
- It will be the exhibitor's responsibility to:
  - ship or bring all light bulbs, switches, motors, fans, or other apparatus or material necessary for the final presentation of the project (other than whatever the Host Committee may be willing to secure, when formally requested in advance to do so).
  - assemble the project at the fair, in as short a time as is practicable (provisions cannot be made for the redesign, completion, or rebuilding of projects at the fair).
  - repair or replace anything in the project which fails during the fair (wherever possible, spare parts should be packed with the project).
  - provide all tools, equipment or material necessary for assembly
  - have all project summaries, etc., rendered in their final form by the April 20 registration deadline.
- The exhibitor may not hang any portion of the project, nor affix any posters, graphs, etc. from or to the walls or ceilings of the building in which the fair is housed. It is for this reason that students must provide their own backboards.
- At the fair, the Host Committee will provide:
  - space in which to set up the project (maximum width 1.2 metres; front to back 0.8 metres; height 3.5 metres).
  - a table and one chair beside the project space (extra chairs will be available in the room for projects with partners).
  - a source of 110 Volt AC near the project space (if extension cords are needed, the exhibitor must provide them).
  - storage space for packing cases, etc., during the fair.
  - certain special apparatus (e.g. oxygen, cylinders, other cumbersome objects) only if sufficient advance notice has been given by the exhibitors concerned and if the Host Committee is able to provide them (any such apparatus provided must be paid for by the RSF and/or exhibitor).
- Exhibitors will be asked to participate in a survey.
  - *CWSF Exhibitor Survey*: YSF Canada conducts a survey of student participants near the end of the CWSF to obtain planning feedback on the CWSF and the needs of the participants.
- During the judging process, each exhibitor will be photographed with their exhibit. The photos are kept for YSF Canada records and they may be used for promotional purposes.

Delegates Meetings at the CWSF

Introduction

These meetings are held every May at the site of the CWSF. Each affiliated region has one delegate (with a vote). Each region may also have one alternate (no vote) and as many observers as they wish. Members of the NSFC have voting privileges. The meeting is run by the NSFC, which represents the delegates. Each year the delegates elect one of their members to a three-year term on the NSFC.

Types of meetings

Information meetings. The main purpose of these meetings is to allow the delegates and NSFC to get acquainted, and for the delegates to exchange ideas.

Subcommittee meetings. These are organized by the NSFC Chairperson and may be set up to bring in a report and recommendations. Only delegates or alternates may be members, with a

maximum number of nine, plus one NSFC member. All reports shall be in writing and will be given to the Secretary for inclusion in the minutes.

Workshop meetings. These are organized by the NSFC and are set up to involve as many delegates as possible in a participatory workshop setting. A variety of topics related to science fairs will be discussed.

Business meetings. The Delegates Meetings usually run in two parts, meeting on separate days. It is through the discussions and motions made at these meetings that recommendations regarding policy are made to the Program Committee, through the NSFC. The remainder of this section deals with the procedures used at this meeting. For items not outlined here, Roberts Rules of Order will apply.

The order of business

Roll call
- All delegates are to check in with the recording secretary at the beginning of each meeting.
- Regional delegates and alternates must sit together. All voting delegates must have their delegate identification on at the time of registration and for each vote taken.

Approval of agenda
- As presented by the NSFC, items of business not covered may be added at this time.

Business of agenda
- Business outlined in that agenda then takes place.

Election of Vice-Chairperson
- The election of the new Vice-Chairperson will take place during the second delegates' meeting at a suitable point in the agenda determined by the Chairperson.

Role of YSF Canada and the NSFC

Agenda shall be available upon registration at the CWSF.

All recommendations for changes in rules and policies of the science fair movement will be considered by the Program Committee Chairperson through the NSFC.

Delegate voting

The principle

Voting is based on the principle of one vote for each affiliated RSF that has at least one student exhibitor present at the CWSF.

The process

Eligibility
- Only RSF first delegates registered on the official roll call of the Delegates Meeting may vote.

Secret ballot
- Secret ballots are used to elect the new NSFC Vice-Chairperson and the Zone Representatives. Candidate's names are written on a special ballot.
- All ballots are destroyed by the Chairperson after each vote.

Scrutineers
- Two scrutineers will be appointed by the Chairperson from among the non-voting delegates to count the ballots for the election of Vice-Chairperson, and by the Past Chairperson for Zone Representatives.

Quorum
- A Quorum shall be at least two-thirds of the eligible delegates present at the Delegates Meeting.

Majority

- A simple majority is necessary to declare a winner.

New Vote

- If a clear winner is not declared, the candidate with the lowest number of votes is dropped and a new vote is taken until such time as a winner can be declared.

Rules of Order

Roberts Rule of Order will apply with the following explanations and emphasis:

- Any Host Committee member may speak on their operations at the CWSF.
- Subcommittees may be set up to bring in a report and recommendations. Only delegates or alternates may be members, with a maximum number of nine, plus one NSFC member. All reports shall be in writing and will be given to the Secretary for inclusion in the minutes.
- A quorum shall consist of two-thirds of the delegates.
- Each region is allowed one voting delegate and one alternate, each of whom may speak to the meeting, but only one of whom may vote. Observers may not speak to the meeting.
- Regional fairs not in attendance may not be represented by a delegate from another regional fair.
- The ruling of the Chairperson on points of order or privilege can be challenged from the floor. The challenger and the Chairperson can each speak to the issue and a vote is taken immediately thereafter. A two-thirds majority is needed to overrule the Chair.
- Voting delegates only may move and second motions.
- All motions are to be handed to the Secretary in writing before being accepted for discussion. Motion sheets will be provided.
- The mover may open the discussion, and has the option of making the closing remarks before the question is called.
- Each delegate may speak only once to a motion unless he or she has additional information or requires clarification or more information.
- Any delegates recognized by the Chairperson must be allowed to speak (before the question is called).
- Each region represented has one vote. All votes shall be a stand-up vote so that the Chairperson may distinguish the voting delegates by their identification.
- Any amendment to a motion must be voted on prior to dealing with the main motion.
- Tabled motions may be left until the next annual meeting provided the mover and the seconder agree.
- No vote is required for recommendations or where consensus is apparent.
- The *Policy, Procedures and Guidelines Manual for the National Science Fair Program* may be amended by a motion that must pass with a majority of the voting delegates present. Changes which affect the policy of the YSF Canada must be approved by the YSF Canada Board of Directors upon the recommendation of the NSFC.
- Should the NSFC Executive decide that an amendment passed by the delegates should not be presented to the YSF Canada Board of Directors, they can delay presenting the amendment provided they give an explanation at the next Delegates Meeting.

Nomination form - Vice-Chairperson

A nomination form for the position of Vice-Chairperson may be found as Appendix F. Only first delegates (not alternates) may nominate or second candidates for the position of Vice-Chairperson. This form must be completed in duplicate (one to be retained by candidate).

Nomination form - Zone Representative

A nomination form for the position of Zone Representative may be found as Appendix G.

Motion sheet - Delegates Meeting

A motion sheet for use at the Delegates Meeting is attached as Appendix H.

Awards

General

The awards for the CWSF are the responsibility of YSF Canada.

The Canada-Wide Science Fair Awards

The Canada-Wide Science Fair Awards recognize the scientific and technological achievements of the students participating in the Canada-Wide Science Fair. YSF Canada determines the criteria for eligibility, sets the judging standards, recruits the sponsors of prizes and organizes the presentation of awards. Some $200,000 worth of awards are presented at the awards ceremony. The CWSF awards are structured as follows:

Division Awards

Gold, silver and bronze medals, with associated cash prizes, and honourable mention certificates, are provided for the best junior, intermediate and senior projects in each of the six divisions. The maximum number of medal and honourable mention winners that are selected in each division is: 6 gold plus $400 each; 9 silver plus $300 each; 12 bronze plus $200 each; and 30 honourable mention certificates. A lesser number is awarded if the available projects do not merit granting the awards.

Petro-Canada Peer Innovation Awards

The Petro-Canada Peer Innovation Awards provide an opportunity for Canada-Wide Science Fair participants themselves to recognize projects that exemplify innovation and excellence in science and technology. The student (or 2 students together) for each project casts one vote for up to three projects (which may include their own) from their geographic zone and grade category. The award includes a cash prize and a scholarship. A total of 18 awards-three categories in each of six zones- are presented.

Special Awards

Special Awards include trips to participate in science-related activities such as the Weizmann Institute in Israel; cash prizes ranging between $250 to $1000 each; scholarships of $1000 or more, and other prizes. The criteria for these awards are determined by the sponsors. Students are allowed to self-nominate for 7 awards.

Grand Awards

Grand Awards consist of the Best Junior, Intermediate, Senior Projects; and the Best Overall Project in the Fair.

Judging

General

The judging standards for the Canada-Wide Science Fair are the responsibility of YSF Canada. YSF Canada produces a CWSF Judging Manual each year. This manual is used as a guide and it is distributed to all judges who participate in the CWSF.

CWSF Judging Committee

Normally there is a Chief Judge, a Deputy Chief Judge and a Chairperson assigned for each of the six divisions. The Chief Judge and the Deputy Chief Judge do not judge. These two people, in conjunction with the division chairpersons, organize the divisional judging. They ensure that there is suitable subjective interaction among the judge in the ranking of winners in each division and category.

Divisional Judges

The Chief Judge is responsible for finding and obtaining the commitment of qualified judges. All judges must have appropriate academic qualifications and/or appropriate practical experience. Judges may include university and community college faculty, industrial scientists, engineers, technologists and representatives of government laboratories, research centres and agencies, and medical researchers.

More than 200 judges review some 300 exhibits in six divisions. Judging is by teams, which are normally three to five people, who individually judge eight to ten exhibits.

Special Awards Judges

The organizations that sponsor Special Awards are encouraged to provide their own judges. In cooperation with YSF Canada, the Chief Judge is responsible for coordinating the Special Awards Judges and arranges for supplementary Special Awards Judges, as required. Special Awards Judges have access to the relative ranking results of Divisional Judges as required.

Grand Awards Judging Committee

In co-operation with the Chief Judge, YSF Canada is responsible for co-ordinating the Grand Awards judging. The Grand Awards Judging Committee is a committee of YSF Canada. There are approximately eight members and they are responsible for selecting the winners of the Grand Awards. The judges use the relative rankings of candidates as selected by the Divisional Awards Judges as a basis for selecting the winning projects.

Judging Appeal Committee

The members of this committee include the National Chief Judge, Deputy National Chief Judge, National Science Fair Committee Chairperson, Chief Judge and the Executive Director. This committee is responsible for reviewing and resolving any disputes at the CWSF.

Petro Canada Peer Innovation Awards

These awards are not part of the Special Awards program, so students are not required to nominate themselves; all projects registered on-time for the CWSF are eligible. CWSF student participants select the recipients of these awards by secret ballot. Under the direction of the NSFC, ballots are prepared in advance from the participant database to provide one ballot for each grade category within each geographic zone of the YSF. With six zones and three categories, this requires 18 different ballots, in both English and French. Each ballot header identifies the zone and category it is for, and lists the eligible projects, their floor location numbers, student name(s), and project titles. The ballot also provides three blocks for the student (or 2 students together) from each project to write in up to three project floor location numbers. The ballots from different zones are printed on different colours of paper to facilitate sorting. In order to help the students locate the projects from their geographic zone, coloured stickers that match the ballot colours for the zones are placed on the table identification tags for each project.

Students are encouraged to visit eligible projects during set-up and other free time in the display hall. A host committee may wish to designate some time in the schedule for Petro-Canada award visitation, but the available time in the first few days seems adequate for the purpose. The selection process is not intended to be rigorous, but provides a focus for participant interaction. In some zones and categories, it may not be possible for students to visit all eligible projects.

Students submit the ballots to their delegate, who ensures that the appropriate number and type are completed for his/her region. The delegate submits the region's ballots to the zone representative by the time and date designated in the CWSF schedule. The NSFC is responsible for counting the ballots and submitting the results to the YSF Canada office for preparation of the awards.

General judging procedures

Although the routine will vary slightly from year to year, the method by which judging occurs at the CWSF is presented here. The judging form used at the CWSF is included as Appendix M.

The process

Screening

The Chief Judge will examine the pre-submitted project summary. He/she will ensure that the project has met the rules and regulations. The Chief Judge is also responsible for matching the judges to the exhibits (each judge has eight to ten exhibits assigned to them). If the Chief Judge feels an error has been made regarding division placement, he/she may recommend a specific division placement for the exhibit, but the final decision regarding the division placement rests with the student exhibitor and their regional delegate.

Safety checks

The Safety and Regulations Committee shall examine all projects to ensure that they meet all the rules and regulations (e.g., exhibit size, safety and animal care). If a project does not pass the inspection, it may be disqualified. In order to facilitate a smooth and fair inspection process, the following procedures shall be in place:

- A brief description of the safety inspection process shall be provided to all participants and delegates in the registration booklet and on arrival in the display hall, including written notice that the final authority in issues of safety is the NSFC chair.
- The NSFC is to be involved in the safety inspection process as members of the inspection team.
- Knowledgeable resources, and/or a training workshop, shall be available to inspectors to assist with the interpretation of key safety issues such as electrical safety, fire safety, animal research, and what is acceptable for display (particularly food and plant material).
- A visual identification system shall be implemented that allows inspectors to identify easily projects that: clearly meet all criteria; are suspected of violations; and those in clear violation.
- Each project shall be assigned to a specific inspector/team of inspectors. The assignment may be based on familiarity with certain divisions or other criteria, but must remain consistent from first inspection to certification. This ensures that one inspector does not approve something another inspector previously identified as deficient.

Briefing the judges

The Chief Judge will provide his/her briefing instructions to the judges before each judging session. The instructions will include the judging philosophy, judging procedures, exhibit layout, assignment of projects and review of the project summaries.

Prejudging

When judging "scientific thought", a project "level" will be selected by a judge. The level of the project refers to aspects of the project such as:

- the level of difficulty; the depth of the study; the complexity of the project; the degree of competence or the thoroughness of analysis.
- the levels proceed from lowest (1) to highest (4), increasing in the above mentioned aspects at each level.

Each project's division, type, and level (1,2,3,4) will be decided before judging begins; however, on-site judges have the final say in selecting type and level of projects when judging scientific thought. Before the CWSF begins, each judge should have read and evaluated the Project Summaries assigned to them according to the criteria on the judging forms. See page **Error! Bookmark not defined.** for sample judging forms.

Student counsellors

Judging can be a stressful experience for CWSF participants. During judging, the host committee provides a number of readily-identifiable student counsellors on the exhibit floor who are available to respond to exhibitor's needs (e.g., to answer questions, assist with project equipment malfunctions, and deal with exhibitor anxiety). The counsellors should operate outside the host committee's judging organization.

Division Awards judging - Day 1

Each judging team will evaluate a specific group of projects in the same division and category on an individual basis. Judging is a two-step process. First, the judges will view the exhibit without students being present. This way, questions can be formulated. In the second part of judging, students are present at their exhibit. The interviews are the most important part of the process and 30 minutes will be allocated for each one. An exhibitor should plan to describe their project in about 10-15 minutes and be prepared for the judges to ask questions. Each exhibit will be evaluated five times.

Because judging is performed on a relative basis, judges communicate with other members of their judging team to determine the final ranking. The judges then submit the scores to the Chief Judge or Division Chairperson. The ranking in each division and category will then be determined on the basis of these scores and subjective interaction among the judges.

Special Awards judging - Day 2

Unlike division awards, special awards are based strictly on criteria established by the sponsor. Students must self-nominate for these awards when registering for the CWSF. Special Awards judges (usually appointed by the sponsor) are given a list of eligible projects, which is generated based on scientific merit and self-nomination. Judges will spend approximately 10 minutes with the project. An exhibitor should present their project in about 5 minutes (keeping the criteria in mind) and be prepared for the judges to ask questions. After interviewing the exhibitors, Special Awards judges will confer and will submit a rank-ordered list of the top five projects based on the Special Awards criteria. Final decisions are made by the Judging Committee and/or the sponsoring organizations.

Grand Awards judging - Day 2

Grand Awards Judging will occur in parallel with Special Awards Judging. The Grand Awards - the Best of Fair, Best Senior, Best Intermediate and Best Junior are selected based on a consensus of the Grand Awards Judging Committee. Eligibility for the Grand Awards will be determined by a number of factors including; scientific merit, age, criteria as specified and medal standing as determined by the Divisional Award judging.

Table: Medals awarded in divisions

Medals / Categories	Divisions					
	Biotechnology	**Computing & Mathematical Science**	**Earth & Environmental Science**	**Engineering**	**Life Science**	**Physical Science**
Junior **Junior** (Grades 7 & 8; Secondary I & II in Quebec)	2 Gold 3 Silver 4 Bronze 10 Honourable Mentions	2 Gold 3 Silver 4 Bronze 10 Honourable Mentions	2 Gold 3 Silver 4 Bronze 10 Honourable Mentions	2 Gold 3 Silver 4 Bronze 10 Honourable Mentions	2 Gold 3 Silver 4 Bronze 10 Honourable Mentions	2 Gold 3 Silver 4 Bronze 10 Honourable Mentions
Intermediate **Intermediate** (Grades 9 & 10; Secondary III & IV in Quebec)	2 Gold 3 Silver 4 Bronze 10 Honourable Mentions	2 Gold 3 Silver 4 Bronze 10 Honourable Mentions	2 Gold 3 Silver 4 Bronze 10 Honourable Mentions	2 Gold 3 Silver 4 Bronze 10 Honourable Mentions	2 Gold 3 Silver 4 Bronze 10 Honourable Mentions	2 Gold 3 Silver 4 Bronze 10 Honourable Mentions
Senior **Senior** (Grades 11, 12 & OAC, Secondary V, CÉGEP I in Quebec)	2 Gold 3 Silver 4 Bronze 10 Honourable Mentions	2 Gold 3 Silver 4 Bronze 10 Honourable Mentions	2 Gold 3 Silver 4 Bronze 10 Honourable Mentions	2 Gold 3 Silver 4 Bronze 10 Honourable Mentions	2 Gold 3 Silver 4 Bronze 10 Honourable Mentions	2 Gold 3 Silver 4 Bronze 10 Honourable Mentions

The CWSF Travel Plan

Description

The CWSF Travel Plan provides a central administration for the logistics associated with the return transportation of participants and their projects to the CWSF host city.

Travel arrangements are made by YSF Canada. The best possible group rates through a travel agent are obtained.

Goals

- To equalize travel costs for participants of the CWSF.
- To permit YSF Canada to move the CWSF to different locations in Canada.
- To coordinate the arrival and departure of all participants with the Host Committee plans.

Policy

- Participation is mandatory for all affiliated RSFs, including the Host Committee's region.
- Participants in the plan include exhibitors, delegates and alternates. All others will pay the actual costs if using flights organized by YSF Canada.

Operations

After consultation with the air carrier and travel agent, and considering recent participation patterns, the distribution of participants across Canada and the location of the CWSF, a tentative travel fee is announced by YSF Canada at the time of affiliation in the fall.

The fee will be payable to YSF Canada and comprises two payments:

- All RSFs will be asked to make a non-refundable deposit based on their expected number of participants to the Plan. The deadline will be December 15 (exact date may vary from year to year).
- Balance due must be paid no later than April 20 (exact date may vary from year to year).

In February/March, regions will receive a tentative flight schedule (usually appears in the CWSF Registration Booklet). Regions should be sure to examine it carefully; if any changes are required, this is the time to notify YSF Canada. NO CHANGES WILL BE MADE AFTER THE TICKETS ARE PROCESSED.

Any shortfall in the travel fund will be charged to each RSF on a per participant basis.

Any surplus funds will be credited to the regions on a per participant basis.

Surface Travel

Regions designated for surface travel

In September, YSF Canada designates which affiliated RSFs are to use surface travel. A five-hour driving radius of the CWSF site is the guideline used to determine surface travel. All regions using surface travel pay the same travel fee as those regions traveling by air. Following the CWSF, regions involved in surface travel submit a claim form to YSF Canada for their surface travel costs to and from the CWSF site. The deadline for submission of the claims is June 30th each year.

A region's total claim cannot exceed that region's contribution to the Travel Plan.

Claims
Regions designated for surface travel within a five hour driving distance are permitted to make the following claims:

- use your own vehicle - total km x rate as per Appendix A
- rental of a van/bus - attach paid invoice and gas receipts
- bus/train - number of people x fare (attach receipts)

Regions may not claim the following:

- meals and/or overnight accommodations.

Regions electing to use surface travel

Regions that are more than five hours travel distance from the CWSF site and who desire, for their own convenience, to use surface travel, are permitted to do so, providing YSF is notified upon affiliation. Travel claim forms must be submitted to YSF Canada by June 30 each year.

A region's total cannot exceed the actual flying cost for the region to the CWSF.

Claims
The following claims are permitted for surface travel beyond five hours driving:

- use your own vehicle - total km x rate as per Appendix A
- rental of a van/bus - attach paid invoice and gas receipts
- bus/train - number of people x fare (attach receipts)

Regions may not claim the following:

- meals and/or overnight accommodations

Regions requiring overnight accommodations

Due to poor flight connections, it may be necessary for participants to stay overnight during their travel.

Regions will be responsible for making their own reservations, paying the bill and submitting receipts to YSF Canada for reimbursement (see Reimbursements, page 4-33).

Exhibitors must be accommodated in separate rooms according to gender. Delegates and alternates are not permitted to share rooms with exhibitors unless they are the parents of the exhibitor.

Cancellation policy/Changes to airline tickets

The travel agent is not authorized to make any changes to the travel arrangements without YSF Canada's approval. Therefore, if you have any problems with your schedule, please contact YSF Canada immediately.

- No changes will be made after the tickets are processed.
- If a region chooses to drive without notifying YSF Canada in a timely fashion and airline tickets have been purchased and forfeited, the RSF cannot expect to claim compensation.

Science project shipping

Science projects to be shipped by air must be properly packaged to prevent damage, and arrangements must be made to ship by air cargo or by courier to the CWSF site. RSFs are responsible for shipping costs if the projects are not part of their regular baggage. Details on how shipping is to be done and the arrangements made between YSF Canada and the air carrier are provided in the *Registration Booklet*.

Each air carrier determines its own baggage regulations and may charge for extra or oversize pieces of luggage. These charges are not covered under the YSF Central Travel Plan.

Reimbursements

- Regions involved in surface travel will be reimbursed; see above for details.
- Due to poor flight connections, it may be necessary for participants to stay overnight during their travel. YSF Canada will reimburse regions for food and accommodation costs.
- Surface travel costs to an airport of departure will be reimbursed.