

RULES

PRIMARY SECTION

SCIENCE FAIR REGULATIONS Primary Level

IMPORTANT

These regulations apply to all classes in the Primary Level (Juveniles 1, 2 and 3) and replace all previous regulations.

It is valid for all levels of the Science Fairs (local and regional finals).

To be read carefully and completely **BEFORE** starting your project.

The enforcement of the by-laws aims above all to ensure the safety of the public and exhibitors, as well as to raise awareness of the importance of a **responsible scientific approach**. These rules do not limit the creativity and scientific approach of exhibitors, but rather encourage them to work in a structured and safe manner, as professionals must do in the scientific community.

The entire experimental protocol must be carried out BEFORE the Science Fair and presented during the event using diagrams, photographs, slide shows, videos, simulations, etc.

For any additional information on the preparation of your Science Fair project, you must read all the information you will find on the official website of the Technoscience Network: <u>technoscience.ca</u>

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General rules

1. Rules Applications

- 1.1. The Réseau Technoscience and its member organizations are responsible for holding the Science Fairs throughout Quebec (regional finals and the Quebec final).
- 1.2. The Réseau Technoscience oversees the provincial judging committee that is responsible for enforcing the rules for science fairs throughout Quebec.
- 1.3. The Provincial Judging Committee is the only entity authorized to make a final decision on regulations and ethics for all Science Fairs throughout Quebec. No authorization from a third party (school, teacher, company, etc.) is admissible to use equipment or methods that do not comply with the rules of the Science Fairs.

In all circumstances and at its discretion after having informed the exhibitor and his or her supervisor, the provincial judging committee reserves the right to rule on any question relating to the application of these regulations and any questions raising ethical issues.

Any request for information from the **Provincial Judging Committee should be** sent by email to reglements@technoscience.ca.

- 1.4. **ONLY** the Provincial Judging Committee has the right to disqualify a project deemed non-compliant.
- 1.5. A penalty or disqualification may take place before, during and after the Science Fair.

1.6. General definitions

- An exhibitor is a Science Fair participant standing at his/her stand and exposing a project to the public.
- A recognized institution is an institution (e.g., a public or private research centre or laboratory, a hospital, a secondary or post-secondary educational institution) whose mandate is to carry out teaching, research, or technology transfer activities. In order to be recognized, this institution must comply with the rules and ethical standards in effect in Canada and with these regulations.
- A scientific supervisor is a person holding a scientific position within the recognized institution AND who ensures compliance with ethical and safety rules and principles in the realization of the project. This person undertakes, on behalf of the recognized institution, to justify the recognized institution's participation in the proposed project.

2. Eligibility

- 2.1 A maximum of two exhibitors are accepted per project.
- 2.2 An elementary school exhibitor cannot participate in the Quebec finals of the Science Fairs.
- 2.3 An exhibitor must attend an educational institution affiliated with a school service centre located on the territory of an organization that is a member of the Réseau Technoscience or carry out his or her project with an organization recognized by the members of the Réseau Technoscience.
- 2.4 An exhibitor may submit only one project per year and register for only one regional science fair final, regional final.

- 2.5 An elementary school exhibitor cannot present a project with an exhibitor from the high school or college component of the Science Fairs.
- 2.6 To be eligible, a Science Fair project must use a scientific approach.
- 2.7 Projects requiring the active participation of human subjects including intellectual and physical tests, surveys, observations and behavioural studies are not permitted for the primary level.
- 2.8 No project, particularly of a discriminatory, hateful or violent nature, is accepted at the Science Fair.
- 2.9 Projects must avoid presenting data based on false information. The words must be supported by reliable, recognized and verifiable sources.

3. Engagements

All exhibitors commit to:

- 3.1 Comply with Science Fair rules.
- 3.2 Be present at all stages of the event (installation, verification of the project by the by-law enforcement committee, judging, presentation to the public, activities, award ceremony, etc.).
- 3.3 Be present at their booth **at all times** during public opening hours.
- 3.4 Set up and dismantle their booth during the allotted periods in the event schedule.
- 3.5 Be respectful of other participants, accompanying persons, the general public, the organizing committee, etc.
- 3.6 Respect the instructions of the accompanying persons and the organizing committee.

- 3.7 Properly complete the project registration form and all the documents required during the online registration.
- 3.8 Exhibitors are required to submit full project information, unless otherwise advised by the Provincial Judging Committee.
- 3.9 After the registration of a duo project, if their commitments cannot be respected by either member of the duo, the project can become a solo project. If this is the case, the Withdrawal or Change of Status Form must be duly completed and returned to the regional member organization of the Réseau Technoscience. The exhibitor can request this form from his or her regional Technoscience organization.

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4. Intellectual property

- 4.1 Any project that affects property, intellectual property of others, including:
 - any form of plagiarism or selfplagiarism;
 - forgery or counterfeiting;
 - incomplete bibliography or mediagraphy;
 - omission of citations;
 - or any other behaviour;

will be penalized and potentially disqualified. The Technoscience Network reserves the right to use plagiarism detection software for the application of this regulation. This software is capable of detecting Al bot like ChatGPT or Gemini.

4.2 The source of **ALL** photos used on the poster must be available at the booth at all times. See the ABCs of the Elementary Science Fair.

Any use Generative AI must remain a complement, and it must be clearly cited in the sources.

- 4.3 The authors of all or parts of a computer program or any other form of technology, method or process that has not been designed by the exhibitor must be clearly identified. The list of authors must be accessible at the booth at all times.
- 4.4 Any contribution from a mentor or any other person related to the project must be mentioned in the bibliography of the written report and during the presentation of the project.

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5. Projects using animals or biological material of non-human origin

Projects involving human subjects including intellectual or physical tests, surveys, observations, behavioural studies and the use of human cells or tissues are not permitted for the primary level of the Science Fair.

5.1 ALL projects using:

- vertebrate animals (excluding humans) and live invertebrates;
- cells, tissues or other biological material derived from vertebrate animals (excluding humans);
- microorganisms including bacteria, mycobacteria, viruses, fungi (yeasts and filamentous fungi) or primitive organisms (e.g., protozoa);
- biological substances, such as but not limited to proteins, enzymes or other macromolecules such as DNA, RNA or any substance of animal or plant origin;
- any other biological material of animal origin (excluding humans);

are permitted only if:

- the project has obtained the Certificate of Approval certificate from the Provincial Judging Committee BEFORE it is started. See section 7.
- The exhibitor has carried out the entire experimental part of his or her project in a recognized institution (<u>see</u> <u>definition 1.6</u>)

- that adheres to the guidelines and policies of the <u>Canadian Council on Animal Care</u> (CCPA).
- 3) A recognized institution has provided the living or non-living animals, or any other biological material of animal origin, or any biological substances, as defined above.
- 5.2 The project will NOT be able to use invertebrates with higher neurophysiological development (e.g., cephalopods) or vertebrates, and even parts of these animals, if they are sacrificed for the sole purpose of meeting the requirements of the Science Fair project or if their welfare has not been ensured. It is therefore not excluded to use these animals or animal parts, if and only if the recognized institution uses them for its own research activities. These animals, or parts of animals, will therefore be "shared".
- 5.3 The project may use invertebrates with lower neurophysiological development (e.g., insects, crustaceans, molluscs, except cephalopods) or parts of these invertebrates to the extent that they have been treated by collection, sacrifice and conservation methods that are recognized by the CCAC and that ensure their welfare.
- 5.4 All types of animals should be used only if valid alternative methods have not been found.

It is the responsibility of the exhibitor and his/her scientific supervisor to demonstrate that projects that use animals, whether sacrificed or not, employ methods that ensure the welfare of the species that are recognized by the CCAC and that target the smallest number of individuals.

- 5.5 Projects whose study focuses on:
 - embryonic, larval or fetal forms of vertebrates, including eggs
 - rare or endangered species or parts of them (feathers, scales, roots, etc.) are limited to observation.
- 5.6 The observation of wild animals in their natural environment, animals from zoological gardens, animals living on the farm or domestic animals is permitted. Respect for animals must be at the heart of the exhibitor's approach.

6. Projects using hazardous products

- 6.1 Projects using biological or chemical products that pose risks to the experimenter or his or her entourage include, but are not limited to, those described below:
 - 6.1.1 carcinogenic, mutagenic or teratogenic products, such as benzenes, PCBs (polynuclear hydrocarbons), dioxins or products with a high risk of toxicity such as arsenic or its derivatives, cyanides, mercury, etc.;
 - 6.1.2 products representing an explosion hazard such as acetylenes, compounds containing mutually bonded heteroatoms such as perchlorates, peroxides, ethers, polynitrates or any other chemical compound belonging to a class of substances representing a risk of spontaneous, exothermic or gasproducing reactions;

- 6.1.3 products with a high flammability hazard such as volatile solvents, acetone, methanol, ethanol, ethers, etc., reactive metals or their derivatives such as sodium or magnesium, and flammable gases such as alkanes (e.g. propane) or corrosive and highly reactive gases such as chlorine, hydrogen and oxygen;
- 6.1.4 cryogenic **substances** such as liquid nitrogen or dry ice;
- 6.1.5 chemicals or mixtures that produce strong odours, such as volatile sulphur derivatives such as hydrogen sulphide or thiols;
- 6.1.6 pharmaceutical or veterinary products of any kind;
- 6.1.7 illegal **substances** covered by the *Food and Drugs Act* (e.g., amphetamines, barbiturates, etc.) and the *Narcotic Control Act* (e.g., cocaine, morphine, codeine, etc.).
- 6.1.8 Any corrosive substances or substances that may cause injury (e.g. car batteries).
- 6.1.9 Any **controlled substances**, for example, any form of alcoholic beverage, cannabis or any other form of product containing it.
- 6.2 Projects that use any of the products mentioned in point 6.1 are permitted only if:
 - the project has obtained the Provincial Judgement Committee's Certificate of Approval Certificate BEFORE it is started. See section 7.

- The project is supervised by a scientific supervisor from a recognized institution;
- The entire experimental part of the project is carried out in the scientific supervisor's recognized institution (see definition 1.6)

7. Ethics and Rules Form

- 7.1 The Ethics and Rules Form is mandatory for projects:
 - using animals or biological material (<u>section 5 of the</u> regulations);
 - using hazardous biological or chemical substances (<u>section 6 of the</u> regulations).
- 7.2 Mandatory steps to be taken **BEFORE** carrying out any experimental protocol:
 - 7.2.1 NO LATER THAN March 31, 2025, fill in the form available and attach all the documents online on the platform approbation.technoscience.ca
 - 7.2.2 During this process, the following information must, among other things, be provided:
 - information about the scientific supervisor;
 - information about the scientific supervisor's recognized institution;
 - research protocol;
 - risk assessment;

- 7.3 Following the submission of the By-law Approval Form, the Provincial Judging Committee analyzes the documents received.
 - o ONLY, if the project is deemed to be compliant, the provincial judging committee of the Réseau Technoscience will issue the Certificate of Approval so that exhibitors can start experimenting

Once the certificate of approval has been received, exhibitors can begin their project, i.e. start the experimental protocol in the laboratory.

7.4 When registering for the Regional Final, exhibitors must electronically upload, within the deadlines prescribed during online registration, the Certificate of Approval of the Rules received from the Provincial Judging Committee.

Written Report

8. Written Report

8.1 The written report **Not required** for exhibitors at the Science Fair – Primary Stream.

Regional Final Exhibition Site Regulations

9. General Rules

- 9.1 At the exhibition site, the organizers are not required to offer an internet connection.
- 9.2 The exhibitor must be able to identify **ALL** the products and items that are displayed on their table.

10. General Safety

- 10.1 Aisles, surroundings and underneath display tables must be cleared at all times in accordance with fire prevention standards.
- 10.2 Fixtures or models must be on the display table at all times and must not exceed the available space. For more information on quantities, please refer to the document "Stand display standards"
- 10.3 Liquid rigs **can only use water** with a maximum amount of 1 liter. The water must be contained in a fixed and leak-free assembly. It will not be possible to supply water to the assembly during public opening hours.

- 10.4 Any assembly that requires a liquid other than water must be presented in the form of photos or videos.
- 10.5 All noise generated by the projects must be of a reasonable sound intensity and not disturb other exhibitors or the public.
- 10.6 The presentation of the project as well as any assembly or part of an assembly must not be equipped with pointed ends presenting any risk (propeller, wooden rod, etc.). All hazardous extremities must be covered safely.
- 10.7 All rubber hoses and electrical cords should be in good condition, as short as possible, and secured in such a way that no one can accidentally get caught on them. Ideally, electrical hoses and cords should run through the back of the stand or be secured to the table.
- 10.8 Vacuum pumps and all other motordriven belt-driven systems must be equipped with a protective device.
- 10.9 Products that emit odours that may be disturbing must be kept in unbreakable and hermetically sealed plastic containers (e.g., perfumes).
- 10.10 Biological material must be presented in the form of sealed lamellae or plastination.

10.11 The following are prohibited on the Science Fair site:

- tastings;
- blood tests or injections;
- flames, heat sources (e.g., electric element, burner, kettle, incandescent light bulbs, candles, hot plates, etc.);

 collections of data about the public for which information is retained.

In addition, there are **the** prohibitions of sections 11, 12 and 13.

11. Chemical Safety

- 11.1 All chemicals that pose a risk to exhibitors, the public and physical venues, including, but not limited to, those described in section 6, are prohibited on the Science Fair site.
- 11.2 If the exhibitor chooses to present a permitted substance at his or her stand, he or she must clearly identify the exact nature of the substance on the container. For example: "Sodium nitrate (table salt)".
- 11.3 In all cases, when it is unavoidable to use hazardous substances (e.g. mercury in a thermometer), they must be an integral part of a commercially available device (e.g. a thermometer) and meet in all respects the safety standards commonly accepted in public places (e.g. C.S.A. Canadian Standard Association).

12. Electrical safety, lasers, radiation, radioisotopes and ultraviolet

- 12.1 No handcrafted assembly or part of a fixture (created for the purpose of the Science Fair project) shall be powered to a total voltage greater than 36 V (direct or alternating current). The current should not exceed 5 amps.
- 12.2 Homemade assemblies can be powered by unmodified electrical adapters within the limits of

- Currents mentioned in 12.1. An eyelet is required where the power cable passes through the case.
- 12.3 Handcrafted rigs can be powered by batteries. Only batteries of 9V and below are accepted to power all or part of the assembly up to a limit of 36V. The use of original unmodified batteries for commercial electrical appliances is permitted while respecting the current limits mentioned in 12.1.
- 12.4 Any homemade electrical circuit or assembly must be covered, i.e. protected and not directly accessible to the touch. In addition, an electrical diagram of the assembly must be available, whether it is visible or not.
- 12.5 Any commercial electrical appliance that is part of a homemade assembly must retain its full integrity (no modifications permitted).
- 12.6 Appliances or assemblies using electric bulbs must be of the LED type (electroluminescent) and not use more than 10 watts of total power. The bulbs must be protected to avoid accidents.
- 12.7 Only extension cords and multi-outlet bars must have three grounded plugs and be in good condition to be allowed on the sites.
- 12.8 All commercial electrical appliances must have their original power cable.
- 12.9 You should plan for all electrical appliances and multi-outlet bars used in projects to be turned off at the end of the day, **including computers**.

The following are prohibited on the Science Fair site:

- 12.10 Instruments emitting any form of radiation freely in space (microwaves, X-rays, infrared).
- 12.11 Any laser pointer.
- 12.12 All substances made from radioisotopes or ionizing radiation and radioactive substances.

The following are permitted ONLY during the judging period:

- 12.13 A set-up using laser radiation whose source of emission is controlled and fixed, and in such a way that the radiation cannot strike the eye of the exhibitor and authorized persons on the site during the judging is permitted. The power of any laser used at the exposure site may not exceed 2.0 mW and must not exceed Class 1 of the American National Standard for Safe Use of Lasers (ANSI Z 136.1-1993).
- 12.14 A source emitting UV rays whose power does not exceed 25 watts. These devices must be commercial devices and their emission characteristics are available at the booth during the judging period.

13. Exhibition of animals, animal parts and plants

The following are <u>prohibited</u> on the Science Fair site:

- 13.1 Live vertebrate or invertebrate animals.
- 13.2 Human and animal fetuses, dissections, non-plastinated products of prior dissections, and specimens preserved in formalin or any other preservative.
- 13.3 The following biological substances or materials:
 - 13.3.1 petris dishes containing agar.

- 13.3.2 biological toxins;
- 13.3.3 bacterial, viral or fungal cultures;
- 13.3.4 cells or tissues infected with human or animal viruses:
- 13.3.5 body fluids (e.g., urine, serum, blood, semen) and feces;
- 13.4 Exposure to recognized allergenic plants (e.g., ragweed, poison ivy, etc.).
- 13.5 Highly perishable products (vegetable or animal).

The following are <u>permitted</u> on the Science Fair site:

- 13.6 Appropriate photographs, slides and videos of animals can be presented at the exhibitors' booth.
- 13.7 Hermetically sealed collections (insects, etc.).
- 13.8 On the stands, parts naturally lost by a vertebrate animal (shells, porcupine quills, exuviae, feathers, hair, animal antlers, etc.) can be presented.
- 13.9 Stuffed animals, treated skins, skeletons and skeletal parts stuffed from a recognized source. Proof of acquisition and naturalization (invoice or letter of attestation from the supplier or lending institution) must be available at the booth during the Science Fair.

Presentation of the project

14. Regional Finals - Decoration and Visual

14.1 To find out the specifications of the booths used, the exhibitor must contact the member of the Technoscience Network in his or her region. The project (and all its elements combined) must not exceed the dimensions used.

- 14.2 The stands are arranged on tables and the presentation is done at the front.
- 14.3 For decoration, the posters must be applied directly to the provided stand panels.
- 14.4 No decorative element must be glued permanently or in such a way as to alter the stands panels.
- 14.5 Items not attached to the stand panels can be placed on the table.
- 14.6 For decoration, models and posters, corrugated cardboard and Coroplast are prohibited.
- 14.7 It is forbidden to cover the whole table or partially with a cloth. If necessary, a tablecloth is provided by the organizing committee.
- 14.8 No roof, dome, fabric or other way to cover the top or panels of the stand is allowed. Depending on the regional finals, fill lights may not be accepted. The exhibitor must check with the member of the Technoscience Network in his or her region.



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