

Safety Checklist – The More Thorough But Unofficial Version

Project # _____ **Safety Officer** _____

The student and teacher must complete and sign this safety checklist before a project arrives at the Science Fair. A member of the safety committee will do an additional safety check once project set-up is complete but prior to the start of judging. The checklist must be present at your exhibit for the duration of the fair.

General Structural and Mechanical Safety

- ___ Exhibit will not collapse: It is freestanding, well-balanced, and of solid construction, no more than 1.2m wide, by 0.8 metres deep by 3.5 metres from the floor.
- ___ All display posters are completely and securely fastened to the exhibit baseboard.
- ___ All moving parts are securely affixed and will not separate from the exhibit (i.e.: belts, gears, pulleys) and blades should be in a guard
- ___ Motors contain safety shut-offs
- ___ All sharp edges or corners (such as those on prisms, mirrors, glass, or metal plates) are covered or in a case
- ___ All hoses and cords required in the exhibit are securely taped and of minimal length.
- ___ All pressurized vessels have safety valves.
- ___ Exhibit does not contain any compressed gases or pressurized vessels
- ___ Aisle and area under table are clear of any debris.
- ___ Moving exhibits (such as robots) should only use no more than their allocated space

Fire Hazards

- ___ No combustible material is near a heat source.
- ___ No open flames (candle, torch, or any other heating device such as a hot plate) are present in the exhibit.
- ___ No excessive packing material or any other unnecessary flammable material is present in the exhibit hall or under the table.
- ___ No burning or smoldering substances are present in the exhibit hall (including cigarettes).

Biohazards (including Animals and Animal Parts)

- ___ No biological toxins, cell or tissue samples (including blood and blood products, except on sealed microscope slides), microorganism, or cultures ((no Petri dishes, no Ziplocs with spores, etc.) are displayed in the exhibit. Where such displays are integral to the project content, visual substitutes (ie: photographs may be used).*
- ___ No matter subject to decomposition is present in the exhibit.
- ___ No live animals are present in the display (but properly housed, non-decomposing animal parts may be displayed (ie: a snake skin).* Note: Items naturally shed by an animal or parts properly prepared and preserved are permitted [eg: quills (safely contained), shed snake skin, feathers, tanned pelts and hides, antlers, hair samples, skeletons or skeletal parts] Tissues are not permitted.
- ___ If any vertebrate animal is part of an experiment, collection and use of thereof must be humane. Such treatment cannot stress the animal or be otherwise deleterious to its health.
- ___ No radioisotopes are present in the exhibit.

**No project will be penalized due to the replacement of hazardous material with innocuous substitutes.*

Chemical Safety

___ No toxic, dangerous, or flammable chemical (including chemical preservatives) are present in the exhibit.

___ No drugs, whether prescription or over-the-counter, are present in the exhibit.

___ Where chemicals are required for illustrative purposes, appropriate safe substitutes have been used (ie: water for alcohol), which may be labeled with the intended name followed by 'simulated' (ie: either simulated). * Any other chemical than water or table salt is strongly discouraged. Water can represent "simulated alcohol". Salt (NaCl) can be used to simulate other powders. Write "simulated _____". Molasses can be used to simulate petroleum products. Food colouring may also be used.

___ No more than 1 litre of liquid being displayed

Electrical Hazards and Radiation

___ Electronic equipment created by participants can be used as long as they have:

- As low voltage as possible
- A non-combustible enclosure
- An insulating grommet at the point where the electrical service enters the enclosure
- Low electric current in case terminals are touched
- Pilot light to indicate when the power is on.

___ Voltages used represent minimal quantities required to run any electrical components of the exhibit.

___ All electrical components are entirely housed by an enclosure insofar as such remains practical.

___ Such an enclosure is of a non-combustible material.

___ All metal parts are not intended to carry a current but present in an exhibit that uses electrical components are grounded.

___ All cords are CSA approved and in good repair (no exposed wires or breaks in insulation). Modifications are a hazard.

___ All cords are three pronged.

___ An insulating grommet has been installed at the interface of a cord and any electrical component (a grommet keeps the cord from being frayed by the edges of the component housing).

___ Wet cells (ie: car batteries) have not been used (dry cell batteries such as alkalines or NiCd are permitted)

___ Exhibit is capable of being turned off at the end of the viewing period.

___ No exposed part carries a voltage greater than 36V.

___ No radiation-producing component is displayed without proper governmental authorization and adherence to governmental radiation safety protocols (exhibits involving voltages above 10kV are considered to be radiation-producing).

___ X-ray and radiation producing equipment may be displayed but NOT turned on.

Firearms, Hazardous Materials, and Equipment

___ No Firearms, ammunition, dangerous goods, or explosives

___ No Images of humans or animals injured by firearms or explosives

Images of Humans

___ Displays must avoid sensational or offensive images