

*International Rules for Pre-Collegiate Research:
Guideline for Science and Engineering Fairs*
Changes for 2021-2022

The following items were the key changes made to the International Rules for 2021-2022.

Human Participant Rules (pages 8-10)

Human Participation Involvement in Student-designed Invention, Prototype, Computer Applications, Engineering/Design Projects and Product Testing (Page 9)

- Updates were made to this section to clarify the IRB review and approval for the use of human participants and the correct documentation.
- Specific guidance is provided regarding any project that may involve medical diagnosis or intervention. Please review this statement carefully as well as Rule 6 of the overall Human Participant rules.

Vertebrate Animal Rules (page 12-14)

Rules for All Vertebrate Animal Studies (page 12)

- **#6.** This rule is focused on monitoring weight as a sign of distress. There has been a clarification for alternative methods of monitoring weight and stress other than weighing the animal weekly for animals in which this is neither practical nor safe.
- The text of the rule:
All animals must be monitored for signs of distress. Because significant weight loss is one sign of stress, weight must be recorded at least weekly with 15% being the maximum permissible weight loss or growth retardation (compared to controls) of any experimental or control animal. If weighing of animals cannot be done in a fashion that is safe for both the researcher and the animal, then an explanation and approval by an SRC or IACUC needs to be included in the research plan, as well as an alternative method(s) to address signs of distress. Additionally, body conditioning scoring (BCS) systems are available for most species of animals utilized in research and agriculture and are an objective method for assessing the overall health status of the research subject, with or without weight loss. A BCS system should be included in the design of any study utilizing live vertebrate animals and results regularly recorded.

Potentially Hazardous Biological Agents (PHBA) Rules (page 15-17)

Exempt Tissues (no SRC pre-approval required) page 17

- Clarification was provided regarding the 2021 addition of the exemption of human capillary/blood collection (i.e. finger stick)
- The text of the rule:
Human capillary/blood collection (i.e. finger stick) of the student researcher to themselves; blood collection from any other human participants must be reviewed and approved by an IRB.

Hazardous Chemicals, Activities or Devices Rules (page 19- 20)

Rules for ALL Projects Involving Hazardous Chemicals, Activities and Devices page 19

- There is an addition to rule #5 regarding proper sharps disposal.
- The text of the rule:

5. The student researcher must minimize the impact of an experiment on the environment. Examples include using minimal quantities of chemicals that will require subsequent disposal; ensuring that all disposal is done in an environmentally safe manner and in accordance with good laboratory practices. (Proper chemical, sharps and other hazardous materials disposal must follow local, state, federal guidelines.)

Forms

Changes to the forms were minimal and reflected the change of many projects not being conducted in a laboratory environment directly.

Student Checklist (1A)

- Removed “laboratory” in the text of #7:
 - Text now reads: This year’s experimentation/data collection.

Regulated Research Institutional/Industrial Setting Form (1C)

- Change in terminology of the title box.
 - Text now reads: This form must be completed AFTER experimentation by the adult supervisor supervising the student research, either virtually or on site, conducted at a Regulated Research Institution, industrial setting, or any work site other than home, school, or field.
- Adjusted the text to describe the support provided to the student
 - Text now reads (for #1): Research was supported at my work site

Risk Assessment Form (3)

- Change in terminology of the title box.
 - Text now reads: Must be completed before experimentation. May be required for projects involving Hazardous Chemicals, Materials or Devices, or PHBAs; recommended for all projects