

Safety and Ethics Regulations

The International Rules for Pre-college Science Research: Guidelines for Science and Engineering Fairs is published annually to support students doing independent research safely. They are the official rules of the Intel ISEF and affiliated science fair, as well as the Edmonds School District STEM Expo.

The purpose of these rules is to:

- protect the rights and welfare of the student researcher
- protect the rights and welfare of the human participant
- ensure adherence to federal regulations
- ensure use of safe laboratory practices
- protect the environment
- determine eligibility for participation in the STEM Expo and other STEM competitions and events

To see the entire Safety and Ethics Regulations in full detail, please visit <https://goo.gl/ZKZMPH>.

The following is a summary of Safety and Ethics Regulations for use of:

- Vertebrate Animals
- Human Participants/Human Subjects
- Potentially Hazardous Biological Agents (Microorganisms, rDNA, Tissues & Body Fluids)
- Hazardous Chemicals, Activities, or Devices

Vertebrate Animals	
If the Student Project Idea Includes -	What happens next?
<ul style="list-style-type: none"> • Projects where is no interaction with the animals being observed, AND there is no manipulation of the animal environment in any way, AND all federal and state agriculture, fish, game and wildlife laws and regulations are met 	<p>Teacher may give approval to proceed</p>
<ul style="list-style-type: none"> • Projects which cause more than momentary or slight pain or distress are PROHIBITED. They will not be approved. • Vertebrate animal toxicity studies, behavioral experiments using unpleasant stimuli, pain studies, and predator/prey experiments are PROHIBITED. They will not be approved. • Vertebrate animal deaths due to experimental procedure are PROHIBITED. They will not be approved. • Vertebrate food or fluid intake studies 	<p style="text-align: center;">STOP!</p> <p>Contact your District Science Coordinator for guidance.</p> <p>Elementary: Olga Mashnitskya x 7175</p> <p>Secondary: Jennifer Hageman x 7196</p> <p>CTE: Mary Glodowski x 7130</p>

Human Participants/Human Subjects	
If the Student Project Idea Includes -	What happens next?
<ul style="list-style-type: none"> • Testing an invention that does not pose a health or safety hazard, and will not be tested on anyone else • Reviewing data/statistics collected from publicly available AND published sources • Behavior observations in public settings when the student researcher has no interaction with individuals being observed, AND the student researcher does not manipulate the environment in any way, AND the student researcher does not record any personally identifiable data • Using human study data from professionals who have followed privacy and HIPAA laws 	<p>Teacher may give approval to proceed</p>
<ul style="list-style-type: none"> • Testing of an invention or concept by participants other than the student researcher • Subjects participating in physical activities (physical exertion, eating/drinking/tasting any substance, medical procedures) • Psychological, educational and opinion studies including surveys, questionnaires, tests • Studies in which the student researcher is the subject of the research • Data/record review projects that include participant information such as name, birth date, phone number or other identifying information • Behavior observations in which the environment has been modified (posted a sign, placed an object, etc), occurs in a non-public or restricted access setting (day care setting, doctor's office, etc) OR involves the recording personally identifiable information 	<p>STOP! Contact your District Science Coordinator for guidance.</p> <p>Elementary: Olga Mashnitskya x 7175</p> <p>Secondary: Jennifer Hageman x 7196</p> <p>CTE: Mary Glodowski x 7130</p>

Hazardous Chemicals, Activities or Devices	
If the Student Project Idea Includes -	What happens next?
<ul style="list-style-type: none"> • Activities that do not include a level of risk above and beyond that encountered in the student's everyday life 	<p>Teacher may give approval to proceed</p>
<ul style="list-style-type: none"> • DEA- Controlled Substances • Prescription Drugs • Alcohol and Tobacco • Firearms and Explosives • Hazardous Chemicals • Hazardous Devices 	<p>STOP! Contact your District Science Coordinator for guidance.</p> <p>Elementary: Olga Mashnitskya x 7175</p> <p>Secondary: Jennifer Hageman x 7196</p> <p>CTE: Mary Glodowski x 7130</p>

Potentially Hazardous Biological Agents	
<p>If the Student Project Idea Includes – microorganisms (including bacteria, viruses, fungi, parasites, etc), recombinant DNA (rDNA) technologies or human/ animal fresh/frozen tissues, blood, body fluids as they may contain microorganisms that have the potential to cause disease</p>	<p>What happens next?</p>
<p>Microorganisms</p> <ul style="list-style-type: none"> • Baker’s yeast or brewer’s yeast, except in rDNA studies • Projects using <i>Lactobacillus</i>, <i>B. thuringiensis</i>, nitrogen-fixing, oil-eating, or algae-eating bacteria ONLY if they are introduced into their natural environment. If these micro-organisms are cultured in a petri dish, they must have a Safety Review Team consultation • Projects involving the study of water or soil microorganisms but do not support their growth • Mold growth on food if experiment is ended as soon as mold is evident • Mushrooms and slime molds • Projects using <i>E. coli</i> K-12 which are done at school are not rDNA studies • Study of naturally-occurring plant microorganism if they are not cultured nor introduced into a home or garden environment <p>Tissues and Body Fluids</p> <ul style="list-style-type: none"> • Plant tissue • Plant and non-primate cell lines obtained from the American Type Culture Collection • Fresh or frozen meat, meat by-products, pasteurized milk, or eggs from food stores, restaurants, or packing houses • Hair, hooves, nails, feathers • Teeth that have been sterilized by autoclave at 121°C for 20 min • Fossilized tissue or archeological specimens • Prepared fixed tissue 	<p>Teacher may give approval to proceed</p>
<p>Microorganisms</p> <ul style="list-style-type: none"> • Protists, archaea and similar microorganisms • Manure for composting, fuel production, and is not cultured • Color-change coliform water test kits • Decomposition of vertebrate organisms • Microbial fuel cells • Projects that require use of a BSL-3 or BSL-4 Lab are PROHIBITED. They will not be approved. • Culturing unknown microorganisms. • Culturing of antibiotic resistant bacteria in a BSL-2 Lab • Culturing human or animal waste or sewerage in a BSL-2 Lab <p>Recombinant DNA Technologies</p>	<p>STOP!</p> <p>Contact your District Science Coordinator for guidance.</p> <p>Elementary: Olga Mashnitskya x 7175</p> <p>Secondary: Jennifer Hageman x 7196</p>

- Projects using rDNA in the classroom under the supervision of the teacher
- Commercially available rDNA kits
- Recombinants containing DNA coding for oncogenes or other human, plant or animal toxins (including viruses) is PROHIBITED. They will not be approved.

Tissues and Body Fluids

- Animal tissues other than those mentioned as appropriate for teacher approval
- Human or wild animal tissues or blood
- Human breast milk
- Study of tissues containing biological agents belonging to BSL-3 or -4 are PROHIBITED. They will not be approved.
- Student researcher's own body fluids, not cultured

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