

CERTIFICATION OF HAZARDS CONTROL

This form must be completed and signed for all projects involving hazardous materials BEFORE the project is begun. In addition, students must submit their certification form to the OCSEF Scientific Review Committee (SRC) for review BEFORE starting experiments or risk not being accepted to the OCSEF.

PLEASE TYPE OR PRINT

Name of Entrant (Last Name, First Name) Kara, Su	School Name LePort Schools
Science Teacher Dr. Eric Daniels	Grade 7
Project Title How To Keep Your Apple Slices Healthy	

Following are examples of precautions that must be taken to prevent injury to persons or the environment. No list could possibly foresee all possible hazards, so teachers, parents and students must carefully plan and follow safe procedures specific to each study. The materials and procedure section of the project description must contain explicit and detailed statements as to how and where experiments will be conducted. Include all hazards you anticipate or encounter and necessary precautions in response to questions in the certification form.

MICROBIOLOGY

1. Bacterial studies must be conducted in a properly equipped laboratory under qualified supervision. Petri dishes may be inoculated at home but must be immediately sealed and taken to the lab to be cultured.
Culturing organisms in the home environment is prohibited.
2. All cultures in Petri dishes must be sealed with two tapes on opposite sides immediately after exposure/inoculation. After sealing, Petri dishes should NOT be opened and examination should be conducted through lids only. Dispose of as possibly pathogenic (biohazard bags or sterilization)
3. All bacteria, protozoa and fungi (including molds) are to be handled as though pathogenic. Pathogenic bacteria are not to be cultured. Pure cultures of nonpathogenic microorganisms should be used in experiments.
4. Petri dishes that are inoculated with materials containing unknown microorganisms (i.e. the material is not a pure non-pathogenic culture) must not contain blood agar or Brain Heart Infusion (BHI) broth, but rather nutrient or trypticase soy agar.
5. Manipulation of molds must take place in a fume hood or open-air area (to prevent contamination of living areas with fungal spores). If anyone in the area has a depressed or damaged immune system or any allergies, experiments with molds must be conducted in a laboratory. Containers must be sealed at all times during observations and disposed of as possible pathogens.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

1. Approved eye-protective devices should be used by all persons performing science activities involving hazards to the eyes. All persons in close proximity must be similarly equipped.
2. Laboratory aprons and rubber or plastic gloves should be available and should be worn whenever hazards exist that could damage clothing, injure someone or irritate skin.
3. Eyes and skin must not be exposed to ultraviolet light experimentally or accidentally as part of a project.

HAZARDOUS CHEMICALS

1. Consult materials safety data sheets (MSDS) prior to use of any hazardous chemicals. The use of especially hazardous chemicals should be avoided and substitutes used. If the use of certain hazardous chemicals (e.g. gel preparations of acrylamide, a neurotoxin or ethidium bromide, a mutagen) cannot be avoided, extra precautions must be exercised and any procedures involving exposure to these hazards MUST be performed by the supervisor.
2. Student use or handling of ethidium bromide or gels stained with ethidium bromide is prohibited. If a necessary part of the experiment, they must be handled only by qualified lab personnel trained in the standards for their use. Care must be taken that the student does not come into contact with them.
3. Petri dishes that are inoculated with materials containing unknown microorganisms (i.e. the material is not a pure non-pathogenic culture) must not contain blood agar or Brain Heart Infusion (BHI) broth, but rather nutrient or trypticase soy agar.
4. The use of controlled substances (drugs, chemicals, anesthetics, narcotics, etc. which are regulated by [the comprehensive drug abuse prevention and control act of 1970](#)) must be in accordance with existing local, state and federal laws. See your pharmacist or write the department of health for information about these laws. The use of many such substances is prohibited by the OCSEF.

HAZARDOUS EQUIPMENT

1. If working with hazardous activities or devices that involve a level of risk above and beyond that encountered in the student's everyday life or whose operation requires a moderate to high level of expertise in order to insure safety, the possible hazards, potential risks, and necessary safety precautions must be assessed. Household items can be hazardous if used improperly.
2. The supervising sponsor/advisor must assess the operation of a device that requires a moderate to high level of expertise to ensure safety. For example, hot plates and Bunsen burners may not require a documented risk assessment, whereas other devices such as high vacuum equipment, heated oil baths, NMR equipment, UV lights, lasers and high-temperature ovens require documentation of a risk assessment.

HAZARDOUS MATERIALS PLAN

For the questions below, provide detailed answers to the questions as they apply to your project and identify potential hazards clearly.

1. Describe the hazardous procedures/materials/substances involved with your experiment and where they will take place.

Su will investigate the microorganisms on an apple slice by taking a clean cotton swab, rubbing it along the cut surfaces of the apple slice, and then gently swiping the swab across the surface of an agar plate. She will seal the plates and take them to school where Dr. Daniels will keep them in his science lab for two days.

2. Source where materials are to be obtained (if a microorganism, include source as well as genus, species and strain).

Nutrient agar plates (10), available from online supplies such as Carolina Biological, catalog # 821862.

3. Safety precautions to be taken during procedure (be specific for each hazard involved).

Su will use nitrile exam gloves at throughout all stages of the experiment in order to create a sterile environment. She will cut the apples into slices under the supervision of a parent at home. Nutrient agar plates will come in a media kit ready to use for the experiment. She will open the agar plates to examine the colonies of bacteria or fungus under the supervision of Dr. Daniels in the science lab at school.

4. Describe the disposal method(s) to be used for hazardous materials.

Su will treat used agar plates and the gloves as biohazardous waste, and put them into a red biohazard bag. She will seal the bag with tape to keep the materials enclosed and prevent leaks.

5. Describe the procedures to be performed by the student.

Su will prepare the apple slices, dip them into different solutions, refrigerate them for a week, use cotton swabs with agar plates, take them to the science lab at school, and examine the results with her teacher in two days.

6. Describe the procedures to be performed by the supervising scientist/adult supervisor.

Parent will supervise peeling and cutting apple slices, and using the cotton swabs with agar plates. Dr. Daniels will supervise opening agar plates, and examining the bacteria or fungus.

MICROBIOLOGY PROJECTS ONLY (If these questions do not apply to your project write N/A next to the question).

7. What culture medium will be used?

Nutrient agar plates will be used.

8. Describe the method and timing of sealing petri dishes.


Petri dishes will be sealed with two tapes immediately after swiping the cotton swabs, put in a box, and taken to the science lab at school in 20 minutes.

CERTIFICATIONS OF HAZARDS CONTROL

CERTIFICATION BY STUDENT

I certify that the experimental procedures used in this science fair follow [the rules and regulations of the OCSEF](#) and [the Intel ISEF](#). I also certify that the procedures followed will ensure that neither the procedures nor the materials used constitute any known danger and that all microorganisms, pathogenic or non-pathogenic, will be handled and disposed of as if pathogenic.

I understand that this form must be approved and signed by all parties BEFORE the project can begin, and I will comply with this regulation.

Student Name (Print) Su Kara	Student Signature 
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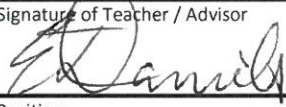
CERTIFICATION BY PARENT/GUARDIAN

I certify that I have reviewed the procedures described above and agree to supervise the above named student and assume primary responsibility for compliance with the existing rules and regulations pertaining to experiments with human subjects cited above.

Parent/Guardian (Print) Yilmaz Kara	Signature of Parent/Guardian 
Home Address (Leave blank if parent) 25541 Aria Dr, Mission Viejo, CA 92692	Home Phone (Leave blank if home phone) 949-395-3053

CERTIFICATION BY TEACHER/SUPERVISING SCIENTIST/SUPERVISOR

I certify that I have reviewed the procedures described above and agree to sponsor the above named student and assume responsibility for compliance with the existing rules and regulations pertaining to hazardous materials.

Teacher / Advisor Name (Print) Dr. Eric Daniels	Signature of Teacher / Advisor 	
School Name LePort Schools	Position Principal and Science Teacher	Date Signed 21 Feb 17
School Address 1 Technology Drive, Bldg A, Irvine, CA 92618		School Phone 949-544-1047 427-3968