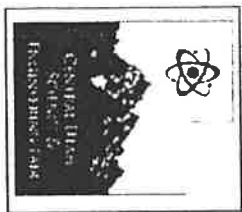


Directions for Filling out the Three-Page 2019 Central Utah STEM Fair (CUSF) Elementary Entry Form For 5th and 6th Grades

All 5th and 6th grade students entering their respective school STEM fair in Jordan District must fill out the 2019 Central Utah STEM Fair (CUSF) Elementary Entry Form for 5th and 6th grades to give to their teachers prior to beginning their science fair projects. There are certain rules that students must follow in doing a STEM fair project. If these rules are not followed the project can be disqualified at the district and regional level. Filling out this form correctly and completely will guarantee admittance to all STEM fair levels of competition.



After you have chosen a topic and prior to beginning your project, the next step is to fill out **completely** the Central Utah STEM Fair (CUSF) Elementary Entry Form for 5th and 6th Grades. Your teacher will either give you the 2019 CUSF Elementary Entry Form or you can download it off the Jordan District website: jordandistrict.org—Faculty and Staff—Departments—Curriculum and Staff Development—Elementary Programs—Science or click below:

<http://stemscience.jordandistrict.org/stem/students-and-parents-stem-fair-projects-information-for-the-school-stem-fair/>

Below are the directions on how to fill out the 2019 CUSF Elementary Entry Form. Completion of this form does not guarantee advancement to the Jordan School District or the CUSF STEM Fairs, but it will show that you have followed all the science fair rules for all competition levels.

Once you have filled it out, give it to your teacher for approval. If it is not complete, he/she will give it back for you to complete. If you change your school STEM fair research plan, then you must submit a new plan to your teacher.

If you are doing this project as a group (maximum of three students per project) you will only need to fill out one 2019 CUSF Elementary Entry Form. However, for the last page, each student will need to fill out his/her own information page and staple it to the other pages of the form. All students need to fill out their own last page.

9/27/18

5th/6th Grades

Engineering Design STEM Fair Packet (ED-SFP)

Page 16a

Page One—Student and Project Information

1. School Information Section

All lines need to be filled in.

2. Student Information Section

This is to be filled out by you and anyone else who is doing this project with you. You can have up to three per project.

3. Project Category Section

Put a check in one of the boxes of which category your project fits in. Many times, a project will fit in more than one category. Pick the one that it is strongest in. If you need help deciding, see page 16 of this packet.



4. Project Approval

Some projects require special signatures* from professionals for project approval to make sure the projects are safe and ethical before you can begin them. These experiments may cause harm to humans and vertebrate animals without being screened. Laws have been set up to protect humans and animals from being hurt, disgraced, or diseased. The signatures go on the front page.

- If you are working with humans as subjects, you must get prior approval from your science teacher and one of the following: a psychologist (could be from your school), medical doctor, or registered nurse. Have each sign on the lines provided on the front page of the registration form. You need written permission from each participant tested who is 18 and over. If any of your subjects are under 18, you need to get written permission from the parent/guardian of each child.

- If you are working with non-human vertebrate animals as subjects, you must get prior approval from your science teacher and a veterinarian. Have each sign on the lines provided on the form. Proper animal care must be provided daily and there cannot be any pain or discomfort.

- If you are working with potentially hazardous biological agents (bacteria, mold, fungi, viruses, parasites, fresh human or animal tissues), you must get prior approval from your science teacher and a biomedical or biological scientist. Have each sign on the lines provided on the form. Growing of unknown microorganisms must be grown in a sealed, unbreakable container such as a Petri dish and stayed sealed during the whole experiment. The containers must be kept and observed in an authentic science lab for observation and not in the home. (See pages 1b and 1c.) **IF THIS EXPERIMENT IS DONE AT HOME THE PROJECT WILL BE DISQUALIFIED.**

- If you are working with prescription or over the counter drugs, alcohol, or tobacco, you must get prior approval from your science teacher and a biomedical or biological scientist. Have each sign on the lines provided on the form. All laws in handling the controlled substances must be followed. An adult must be present and supervise the experiment.

- If you are working with hazardous substance or devices, you must get prior approval from your science teacher and a school administrator. Have each sign on the lines provided on the form. Students must follow the laws in handling these substances or devices. An adult must be present and supervise the experiment.

If you have questions about the rules of these types of projects and/or the signatures needed, ask your teacher or call Paul Nance at 801-244-6479 or email him at paulnance@jordandistrict.org.

- It is important to get these signatures before the experimentation begins, otherwise, it may cause the project to be disqualified for further competition.
- Signatures are to be signed by the professional people stated above on the first page of the 2019 CUSF Elementary Entry Form.

9/27/18

5th/6th Grades

Engineering Design STEM Fair Packet (ED-SFP)

Page 16b

Page Two—The STEM Fair Project Research Plan



After you have chosen a topic, the next step is to write up the research plan for your teacher. There are a couple of reasons a research plan needs to be written.

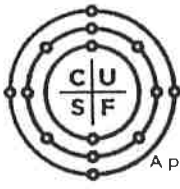
- There is pre-work that needs to be done before the actual experimentation. Knowing the steps you need to take to complete a science fair project will help you complete the project well.
- Your teacher can look at it and know that your project will be a safe and a meaningful project.

Filling out the STEM Fair Project Research Plan includes the following:

1. Write a question or problem that can be answered by science experimentation.
 2. Summarize the research on your topic.
 3. Write a hypothesis using background knowledge acquired during the research.
 4. Write a list of materials and supplies you will use for your project.
 5. Write the name of your adult supervisor with email or phone number.
 6. Check the boxes where your project research will be conducted with names, addresses, and type of location.
 7. Check the boxes where the project work will be conducted with names, addresses, and type of location.
 8. Write up a summary of your actual procedure of how you plan to do your experiment. Include all the ideas listed on the paper.
- Be sure to be complete when you write up your plan so you, your teacher, parents, supervisor and those who may need to sign it know exactly what you will be doing.
 - If you change your STEM Fair research plan, then you must submit a new plan to your teacher.

Page Three—Display and Safety Rules and Student and Parent/Guardian Signatures

1. **Display and Size Rules**
 - Be sure to read and understand all the display and size rules. They must be followed when displaying your project. Anything that is on the list that is with the display board will need to be removed.
2. **Student, Parent, and Teacher Signatures**
 - All student, parent/guardian, and teacher signatures must be acquired before entering the school, district and CUSF STEM fairs. Have each person read the statement above each respective signature line to verify that the all rules have been followed. It is important that everyone knows the rules and what is expected when entering the different leveled science fairs.
 - o There is a place for the student to sign the registration form to show he/she has followed all the rules of the science fair.
 - o There is a place for the parent/guardian to sign the registration form to show that all the rules of the science fair have been followed.
 - o There is a place for the teacher to sign the registration form to show that all the rules of the science fair have been followed.
 - o You don't need to have the "Central Utah STEM Approval" at this time.
 - Each student with the same project must fill out his/her own page three and attach it to pages one and two. Pages one and two are only filled out once per team.



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All students completing a science fair project in grades 5-6 in the Alpine, Charter School, Jordan, Nebo, Provo, or Wasatch District must complete this form, complying with safety and experimentation rules. Completion of this form does not guarantee advancement to the District Fair or Central Utah STEM Fair. School districts are required to submit student entry forms to Central Utah STEM Fair by March 1, 2019. District student finalists selected to advance to Central Utah STEM Fair are **required to register online** at <http://cusef.byu.edu> by February 27 or for a late fee February 28 and March 1, 2019. **No online registrations will be accepted after March 1.** For more information visit <http://cusef.byu.edu>

(One form required per project)

Elementary Form (5-6 Grade)

School Information:

School Name: _____ School District: _____

Supervising Teacher Name: _____ Supervising Teacher email: _____

Student Information:

Team Project: Yes No | Number of Participants: 1 2 3

Student 1 Grade Level: 5 6 Student 2 Grade Level: 5 6 Student 3 Grade Level: 5 6

First Name: _____ First Name: _____ First Name: _____

Last Name: _____ Last Name: _____ Last Name: _____

Project Category:

Elementary Division Category: (Select the category that best fits your project)

- | | | |
|--|---------------------------------------|---|
| <input type="checkbox"/> Chemistry | <input type="checkbox"/> Engineering | <input type="checkbox"/> Physics, Astronomy, & Mathematics |
| <input type="checkbox"/> Computer Science | <input type="checkbox"/> Life Science | <input type="checkbox"/> Product Testing & Consumer Science |
| <input type="checkbox"/> Earth & Environmental Science | | |

Project Approval:

Certain projects require additional considerations and supervision. Read through each of the following restrictions carefully. Determine if any of these apply to your project. Some projects may be subject to multiple restrictions. If any of these restrictions apply to your project, check the 'Applies to this Project' box for that area. **If no restrictions apply** only the science teacher signature is required. **Before beginning experimentation, you will need to obtain any additional signatures listed in the restrictions.**

<p>REQUIRED FOR ALL PROJECTS:</p> <p>Science Teacher Signature: _____</p> <p>Date: _____</p>

Human Test Subjects (ex: survey, taste test, play a game, or interact with in any way)

A copy of the surveys or tests you intend to use must be attached. **Additional project review required.** During the review, if it is determined that there is more than minimal psychological or physical risk to the human subjects involved in the project, the student must receive written consent from each of the participants and **written parental consent for students under 18 years old**, signature pages **MUST** be included with registration form. If it is determined that there are unacceptable risks involved the student must revise his or her project.
Required Signatures:
 Science Teacher **AND** a Psychologist, Medical Doctor, or Registered Nurse
 Applies to this project

Non-Human Vertebrate Animals (ex: fish, rabbits, dogs, etc.)

Experiments involving laboratory animals (rats, mice, hamsters, gerbils, rabbits, etc) cannot be conducted in a student's home except for behavior studies on pets. Proper animal care must be provided daily, including weekends, holidays and vacations. Experimental procedures that cause unnecessary pain or discomfort are prohibited. Experiments designed to kill vertebrate animals are not permitted. Experiments with a death rate of 30 percent or higher are not permitted. Behavioral studies or supplemental nutritional studies involving pets or livestock may be done at home.
Required Signatures:
 Science Teacher **AND** a Veterinarian or other Biomedical/Biological Scientist
 Applies to this project

Bacteria, Mold, Fungi, Viruses or Parasites, Human or Animal Fresh Tissues, blood or body fluids, etc. (Potentially Hazardous Biological Agents)

Determine the level of biological containment available to the student researcher. Biosafety Level 1 projects can be performed in a school BSL-1 laboratory but are prohibited in the home environment.
Bacteria, mold, fungi or any other potentially hazardous biological agent CANNOT be cultured at home. Standard microbiological practices must be used and all hazardous agents must be properly disposed of at the end of experimentation. The experiment must be supervised by a qualified scientist or a trained designated supervisor.
For lab space or questions, please contact the Central Utah STEM Fair Office, admin@cusef.byu.edu
Required Signatures:
 Science Teacher **AND** a Biomedical/Biological Scientist
 Applies to this project

Prescription or Over the Counter Drugs, Alcohol, Tobacco

Students must adhere to all federal, state and local laws when acquiring and handling controlled substances. Only under the direction of a qualified scientist or designated supervisor may a student use federally controlled or experimental substances for therapy or experimentation. Students under 21 may not handle or purchase smokeless powder or black powder for science projects.
Required Signatures:
 Science Teacher **AND** a Biomedical/Biological Scientist
 Applies to this project

Hazardous Chemicals, Weapons/Firearms, Lasers, Radiation, etc.

Students must adhere to federal and state regulations governing hazardous substances or devices. An adult must directly supervise the experiments. Students working with hazardous substances or devices must follow proper safety procedures for each chemical or device used in the research.
Required Signatures:
 Science Teacher **AND** a School Administrator
 Applies to this project

<p>If your project has a checked box, use this for the additional signature:</p> <p>Name: _____</p> <p>Position: _____</p> <p>Signature: _____</p> <p>Date: _____ Email: _____</p> <p>If more than one additional Signature is required, please use an additional copy of this form.</p>
--

Research Plan:

State the question or problem: _____

Summarize background research: What have others done related to this question or problem? What conclusions and results related to this question or problem were found?

State your hypothesis or proposed solution: Remember, a strong hypothesis includes what you expect to happen AND a supporting reason.

Materials List: List any materials and supplies that you will need to complete your research or project.

Adult Supervisor's Name: _____ **email or phone #:** _____

Students must have an adult supervising them when they are working on their project. This is usually a parent or guardian.

Research Locations: Please select the location of each place you plan to conduct your research or work on your problem.

Location 1:

Facility Type: Home Public/Charter/Private School University Public Facility (Park, Library, Etc) Other _____

Location 2:

Facility Type: Home Public/Charter/Private School University Public Facility (Park, Library, Etc) Other _____

Project Summary/Research Plan/Problem Solving Process: Please write a detailed explanation about what you plan to do for your experiment. Include all safety precautions that will be in place for you and your test subjects.

Use another sheet of paper if necessary.

NOTE: Each student and their parent/guardian must complete this page.

Display & Size Rules

Project display board can be **no larger** than 30" deep, 48" wide (side to side), and 108" tall.

Optional: A small electronic device may be used to display photos or videos for the judges. Video is limited to 1 minute and must be approved by fair personnel.

Central Utah STEM Fair, and the participating school districts, reserve the right to remove any additional items displayed with your project.

Do NOT bring items from your experiment -- take pictures of your experiment and include them on your board OR in your journal.

When creating your display board, the following are NOT permitted:

1. Living organisms, including plant material
2. Taxidermy specimens or parts
3. Preserved animals – includes embryos
4. Food (empty containers may be secured to the display)
5. Human or animal parts or body fluids
6. Soil, sand or waste samples
7. Laboratory/household chemicals – including water
8. Poisons, drugs, hazardous substances or devices
9. Sharp items – pipettes, glass, syringes, needles
10. Highly flammable display materials (NO matches)
11. Empty tanks that previously contained combustible liquids or gases
12. Batteries with open top cells
13. Photographs of people other than yourself or your family without their written permission (must have signatures from others).
14. Photographs or other visual presentations depicting vertebrate animals in surgical techniques, dissection, necropsies, other lab techniques, improper handling methods, improper housing conditions etc.

Student & Parent/Guardian Signatures

I certify that my science project complies with all of the experimental rules of the Central Utah STEM Fair. I understand that if I have not complied with these rules that my project could fail to qualify for competition. I have also read and I understand the display and safety rules. If I display any of the objects listed above, I am aware that they will be removed and returned at the conclusion of the science fair. If I am selected to participate at the Central Utah STEM Fair, I agree to set up my project on the appointed day prior to my competition and I will leave my project on display until the designated time for project tear down. I understand that I must be present for judging during the designated competition date and time.

Signature of Student _____

Signature of Parent/Guardian _____

Date _____

Teacher Signature

I have reviewed and approved this student's research plan prior to experimentation and certify that they will comply with all of the experimental rules of the Central Utah STEM Fair in compliance with the BYU-Public School Partnership and Governing Board.

Teacher Signature _____

Date _____

Central Utah STEM Approval

Completed by Central Utah STEM upon advancement to Fair

Regional SRC Approval _____

Date _____

Every effort will be made to protect exhibits from loss or damage. However, since the exhibition of projects is open to the public, the Central Utah STEM Committee, Brigham Young University or the BYU-Public School Partnership school districts cannot and will not accept any liability or responsibility of any nature for any theft, loss or damage to any exhibit or any other property of any Central Utah STEM Fair participant. Accordingly, it is recommended that each participant should secure and guard his/her project and take all prudent precautions to prevent any theft, loss or damage to their project.

For more information please visit our website <http://cusef.byu.edu>

The Central Utah STEM Fair is presented by the BYU David O. McKay School of Education and the BYU-Public School Partnership

