

Student District Science Fair Packet (S-DFP) **For the Engineering Design Science Fair Project**

Student Name

ENCLOSED ARE YOUR INFORMATIONAL PAPERS **AS A 5th or 6th GRADE SCHOOL WINNER** **GOING ON TO THE JORDAN DISTRICT** **5th/6th GRADES DISTRICT SCIENCE FAIR COMPETITION** **FOR ENGINEERING DESIGN SCIENCE FAIR PROJECTS**

**AN ENGINEERING DESIGN PROJECT IS
DESIGNING SOMETHING THAT A STUDENT THEN BUILDS
IF YOU DID AN EXPERIMENT USING THE SCIENTIFIC METHOD OR
COMPUTER DESIGN, ASK YOUR TEACHER FOR THAT SPECIFIC
STUDENT DISTRICT SCIENCE FAIR PACKET**

Enclosed are the Following Papers

- **Congratulations Sheet and Daybreak Elementary's Address, Directions and map on how to get to Daybreak Elementary (Page S-DFP 1a and 1b)**
- **Jordan District 5th/6th Grades Science Fair Schedule (Page S-DFP 2a and 2b)**
- **Jordan District 5th/6th Grades Science Fair Student Information Sheet (Pages S-DFP 3a and 3b)**
 - This is important information you need to know about the Jordan District 5th/6th Grades Science Fair at Daybreak Elementary.
- **Jordan District 5th/6th Grades Science Fair Rules and Guidelines (Pages S-DFP 4a, 4b, and 5c)**
 - There are no exceptions to these rules since they come from the International Science Fair and Engineering Rules. We must follow them.
- **The Journal (Page S-DFP 5)**
 - Each science fair project must be accompanied by a journal. The journal is the literacy area that connects the writing, thinking, research, planning, analysis and conclusion to the science fair project. It is to contain all the work in writing form done by the student on a daily basis.

(Continued on Back)

- The journal should consist of four main parts:
 - Title page
 - Table of Contents page
 - The Scientific Method pages
 - The Bibliography page
- **The Display Board (Page S-DFP 6)**
 - Each science fair project must be accompanied with a display board. It is a summary of your project and reflects your journal.
 - It should show all the steps of the method you used (except the research) with a brief explanation of each. The research will be in the journal.
- **The Interview (Page S-DFP 7)**
 - A judge will be asking you questions during your interview. On the interview sheet are questions that the judge may ask you. The judge may also ask you other questions that are more specific about your project. Know your project well to be able to explain about it.
- **Judging Sheet (Page S-DFP 8a and 8b)**
 - You will be judged by the judging sheet using the engineering design method.
 - Look over the judging sheet to prepare your journal, display board and interview accordingly for the district science fair.
- **2011 CUSEF Registration Form. (4-Page Form)**
 - This registration form needs to be filled out completely (all four pages) and brought in when you register on Wednesday, February 29th. **(You may have filled it out already for your school fair. You will use the same one for the district science fair.)**
 - If the registration form is not filled out completely at registration time will need to be taken home and filled out and returned before by your judging time on March 1st. Otherwise, you will not be judged. However, you will be able to set up on February 29th so that when you bring it in on March 1st, you will be ready to be judged.

If you have any questions please contact Paul Nance:

Cell 801-244-6479

E-mail paul.nance@jordan.k12.ut.us

CONGRATULATIONS

**YOU HAVE BEEN SELECTED TO
REPRESENT YOUR SCHOOL
AS A 5th or 6TH GRADE STUDENT AT
THE JORDAN DISTRICT
5th/6th GRADES SCIENCE FAIR**

Thursday, March 1st at

Daybreak Elementary School

5:00 p.m. to 7:00 p.m.

**4544 West Harvest Moon Drive (11710 South)
South Jordan, 84095**

The best way to get to Daybreak Elementary is to either:

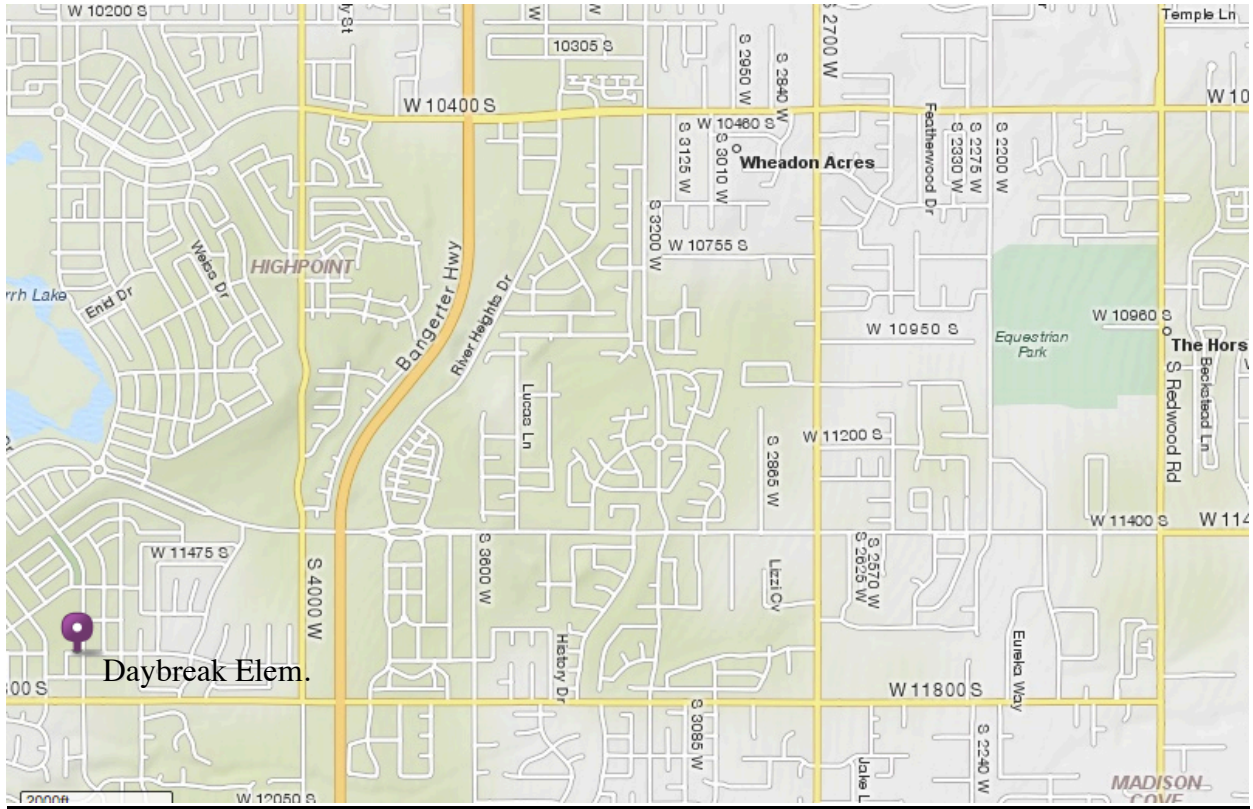
- Travel west on 11800 South that goes under Bangerter Highway
- Turn north onto Daystone Drive or Oakmond Drive (4600 West) that is one street east of Daystone Drive.

or

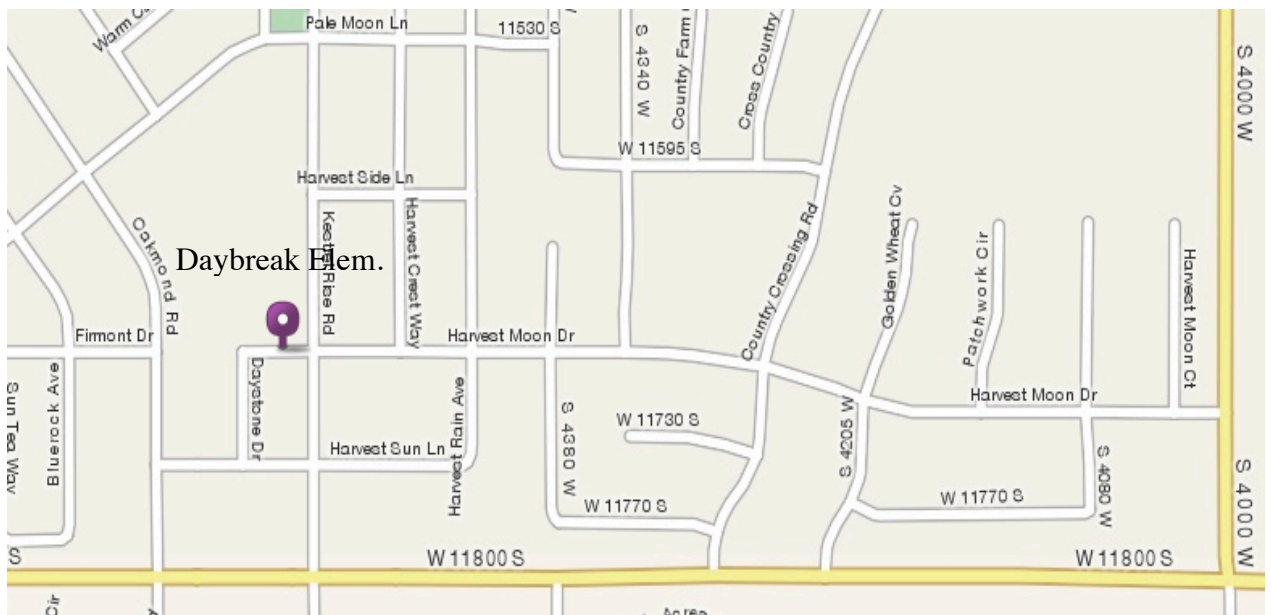
- Turn west off of Bangerter Highway at 11400 South
- Immediately turn south onto 4000 West
- Turn west on 11800 South
- Turn north onto Daystone Drive or Oakmond Drive (4600 West) that is one street east of Daystone Drive.

Map to Daybreak Elementary

Bigger Area Map To Daybreak Elementary



Smaller Area Map to Daybreak Elementary



Jordan District 5th/6th Grades Science Fair Schedule

Wednesday, February 29th

- **4:30 to 6:30 p.m. Registration and set up at Daybreak Elementary School**
 - Come in anytime between 4:30 and 6:30 to set up at Daybreak Elementary.
 - Bring your Registration Papers with you completely filled out with all signatures. (If they are not completely filled out they will be given back to be completed. They must be returned by your judging time on March 1st. You will not be judged until they are completely filled out.)
 - You will receive a judging time on February 29th when you will be judged on March 1st. (Judging times are: 5:00 to 5:40, 5:40 to 6:20, or 6:20 to 7:00.)
 - You will set up your display and your journal. Someone will check your display before you leave to make sure you have followed the Jordan District display rules. Make sure you don't bring things that are on the "do not bring list".
 - You will leave your display over night. (Don't leave anything valuable overnight.)
 - Parents and students are invited to view the projects during this time.

Note: If you cannot show up on Wednesday between the hours of 4:30 and 6:30 for check-in, don't just come in on your own on Thursday to set up. There is a procedure you need to follow to set up. Call Paul Nance at 801-244-6479 to make an appointment to set up. The only time to set up is between 9:00 a.m. and 2:00 p.m. on Thursday.

Thursday, March 1st

- **4:30 to 5:00**
 - Judges look over the displays they are judging without the students.
- **5:00 to 7:00 p.m. (Interview and judging period)**
 - There are three different interview times: 5:00 to 5:40; 5:40 to 6:20; 6:20 to 7:00. (The students will get their interview time on Wednesday when they check in.) Each student will only have one interview time.
 - The students need to be in the cafeteria 20 minutes before their scheduled interview time to participate in a door prize drawing for that particular interview time.
 - At their interview time the students will be called out of the cafeteria to stand by their displays. A judge will interview them for 10 to 15 minutes each. Students will only be judged once.
 - Students can bring books to read while waiting for the judge to interview them. They need to be quiet at this time.
 - Parents are not allowed in the display area during this interview/judging period. They are to wait in the waiting area.

- After each student is judged, the student will leave to go home at this time taking their display boards but leaving their journals. Students are to take everything else home that he/she brought with the display.
 - There will be no announcement of the winners on Thursday night.
 - Winners will be announced at the students' schools on Friday and put on the Internet by Friday afternoon. Also a personal email will be sent to all participating students on Friday if they won or didn't win.
 - There will be an Awards Ceremony for the winners on Monday, March 5th from 6:00 to 7:00 p.m. (See below on Monday, March 5th for more details.)
- **7:00-7:30 p.m.**
 - The judges will finish up their judging and make the decision who the winners are.
- **7:30 to 8:30 p.m.**
 - Display area will be taken down. (Journals will be delivered to the student's schools on the following Monday.)

Friday, March 2nd

- **8:00 to 12:00**
 - Judging papers will be reviewed for accuracy.
- **12:00 to 4:00**
 - Winner information will be sent to schools to be announced. (Traditional schools are closed on Friday, so the office will announce the winners on Monday.)
 - Winner information will be put on the Jordan District Elementary Science website.
 - All students will be notified by email if they won or didn't win at the science fair.

Monday, March 5th

- Journals will be returned to all the schools for students to take home.
- An "Awards Assembly" will be held for the winners at South Jordan Middle School from 6:00 to 7:00 p.m. located at 10245 South 2700 West, South Jordan.
- Judging sheets will be returned to the winners at this time.
- Information about the Regional Fair will be given out at this time.

STUDENT INFORMATION SHEET

- The Jordan School District 5th/6th Grades Science Fair judging will be held on Thursday, March 1st at Daybreak Elementary School from 5:00 to 7:00 p.m. For questions about anything, call Paul Nance at 801-244-6479 or email him at paul.nance@jordan.k12.ut.us.
- You need to check in and set up your display with a journal anytime between 4:30 and 6:30 p.m. on Wednesday, February 29th at Daybreak Elementary in a designated place just for you.
- **When you check in, bring with you your four-page registration form.** This should have been given to you by your teacher when you got this sixteen-page information packet. **Make sure all four pages are filled out completely and you have all the needed signatures.**
 - First page--Student and project information.
 - Back side of first page: Special signatures are needed for projects using humans, vertebrate animals, controlled substances, and growing pathogens.
 - Second page: The Science Fair Project Research Plan—This needs to be written out.
 - Back side of second page: Signatures of the students, parents, and teacher.

(If the four pages are not completely filled out they will be given back to be completed. They must be returned by your judging time on Thursday, March 1st. You will not be judged until they are completely filled out. However, you will still be able to set up your display on February 29th).
- Make sure you have a journal that is complete with the **title page and table of contents. The scientific design method should be complete in the journal. A bibliography is to be in the journal.** The journal should be neat, proofread, and easy to follow. The journal is separate from your display board. The display board is a summary of your journal.
- Study the Jordan District 5th/6th grades judging sheet. This is how you are judged.
- **Student interviews are on Thursday, March 1st from 5:00 p.m. to 7:00 p.m. You will be given a time for your interview when you check in on February 29th. The students' interview times will be one of these times: 5:00 to 5:40, 5:40 to 6:20, or 6:20 to 7:00. Be on time.**
- There will be a door prize drawing 20 minutes before each interview time. Therefore, there will be three door prize drawings. However, students will only be able to participate in one drawing—the one right before their interview time.
- **No parents are allowed in the display hall during the judging of the students.**
- Your interview is very important. Practice!
- Read carefully the "Jordan School District's Science Fair Rules and Guidelines". **NO EXCEPTIONS!** (Pages SDP 5a and SDP 5b)
- Don't display any awards you received from other competitions such as ribbons, trophies, awards, etc. There should be no pictures of anyone under 18 on the display board without written permission except those who performed the experiment and their family members.
- Parents are responsible to provide for student transportation coming and going to Daybreak on Wednesday and Thursday for the district science fair.
- Be sure your display board is free standing. The display board measurements cannot exceed 30 inches deep, 48 inches wide, and 108 inches tall.

- If you need something special for set up email or call Paul Nance. (See first bullet.)
- Before and after you are judged while waiting in the cafeteria, you can do homework or bring a book to read.
- There will be no viewing of the projects on Thursday, March 1st. Viewing of the projects can be on Wednesday, February 29th from 4:30 to 6:30.
- There will be 100 first place ribbons given at the fair.
- The 100 winners will be chosen from these six fair categories: earth science, life science, chemical science, physical science, consumer science, and the engineering and computer design projects We want well-done projects from every category to be represented at the regional fair at BYU. There will be a ratio of winners chosen according to the number of students who enter each of the categories which will add up to ninety.
- Twenty-five second place ribbons will also be presented, but these second place winners will not go on to the regional fair at BYU.
- An awards ceremony will be held at South Jordan Middle School on Monday, March 5th from 6:00 to 7:00 p.m. in the auditorium to award a ribbon to the winners.
- If the parents and students cannot be at the awards ceremony of the winners, call Paul Nance at 801-244-6479 so he can send the ribbon to the school.
- The 1st place winning students will receive their judging sheets back for feedback at awards ceremony. All the others students who were participants in the fair will get their judging sheets in about four weeks after the fair. It will be given to their teachers to give to the students.
- Directly after the judging of the students, the display board will be taken home but the journal must be left in the judging room so the judges can look at it again, if needed, for deciding the winners. The journals will be returned to the students respective schools on the following Monday.
- All students will get a district fair participation certificate.
- The 100 Jordan District Fair first place winners will go on to the Central Utah Science and Engineering Fair (CUSEF) held at BYU on March 28, 2012. Information about CUSEF will be given to the 100 winners the night of the awards ceremony.
- The Registration Form you fill out for the Jordan District Science Fair is also the registration form for the Central Utah Science and Engineering Fair. It will automatically be sent to BYU if you are a district winner. You need not fill out any other registration papers. However, they will require that you register on line and write an abstract paper.
- For the 100 winners, the \$10.00 BYU registration fee will be paid by Jordan District.

JORDAN DISTRICT 5TH/6TH GRADES SCIENCE FAIR **RULES AND GUIDELINES**

(These rules are for liability purposes. They need to be followed. No exceptions.)

I. Rules for all projects:

- Work on projects can only be performed during the months between May 2011 and February 2012.
- You should have filled out the “Central Utah Science and Engineering Fair Entry Form” which was used for your school science fair. This entry form will also be used for the Jordan District Science Fair. If you win at the Jordan District Fair this form will go on to the Central Utah Science and Engineering Fair at BYU. Make sure you, one of your parents, and your teacher have signed it before you bring it the Jordan District Fair Registration on February 29th.
- If you did experiments involving humans, animals, controlled substances, potentially hazardous devices, or potentially hazardous biological agents, you will need to get special signatures from some professional people found on the second page of the Registration Form. **No potentially hazardous biological agents can be grown at home. They must be grown in a lab. NO EXCEPTIONS!!**
- Experimentation cannot be performed on minors outside the family without parent written permission. A parent consent form should have been signed by parents giving permission to test their child.
- Photographs of minors cannot be used or displayed without parent permission except of the student(s) performing the experiment.

II. Projects involving *Human subjects*:

- **All human research projects must be reviewed and approved by a science teacher, a school administrator, and one of the following: a psychologist, psychiatrist, medical doctor, physician's assistance, or a registered nurse before the student begins experimentation.**
- Psychological and physical risks must be carefully evaluated by both the student and those approving the project.
- If unacceptable risks are involved in the project, the student must revise his or her project.
- Copies of the permission slips must be included with the project.
- Copies of all surveys or tests must be included with the research plan.

III. Projects involving *Non-human Vertebrate Animals*:

- **All projects involving non-human vertebrate animals must be reviewed and approved by two science teachers and a veterinarian before the student begins experimentation.**
- All animals must be legally acquired from reputable animal keepers unless it is already your own pet.
- Experiments involving laboratory animals (rats, mice, gerbils, rabbits, etc.) can only be experimented on for behavior studies.
- 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.
- Students may not perform euthanasia, except in emergency situations.
- Alcohol, acid rain, insecticide, herbicide, and heavy metal toxicity studies are prohibited.
- Experiments with a death rate of 30 percent or higher are not permitted.
- Behavior studies involving pets and livestock may be done at home.

IV. Projects involving Controlled Substances (*Prescription Drugs, Tobacco, Alcohol, etc.*)

- All projects involving controlled substances must be reviewed and approved by two science teachers and a school administrator or biomedical scientist before the student begins experimentation.
- An adult must directly supervise these experiments from beginning to end.

V. Hazardous Substances or Devices (*Chemicals, Firearms, Welders, Lasers, Radioactive Substances, Radiation*)

- All projects involving hazardous substance or devices must be reviewed and approved by two science teachers and a school administrator.
- Students must adhere to federal and state regulations governing hazardous substances or devices.
- An adult must directly supervise these experiments from beginning to end. Students working with hazardous substances or devices must follow proper safety procedures for each chemical or device used in the research.

VI. Projects involving Potentially Hazardous Biological Agents: (*fungi, bacteria, mold, viruses, parasites, human or animal fresh tissues, etc.*)

- Research involving potentially hazardous biological agents must be reviewed and approved by two science teachers and a biomedical scientist (found at a college, university, or a business laboratory)
- For the purposes of student research, all body fluids, including saliva and urine are to be considered tissue.
- Blood cannot be used in any science experiments.
- Students using teeth must have them sterilized prior to use.
- Plant tissues, hair, teeth that have been sterilized, and fossilized tissue do not need to be treated as potentially hazardous biological agents.
- All collections of the pathogenic agents must be in a sealed in see-through, non-breakable containers or Petri dishes so they can be observed and never opened for observation. None can be stored at home, and, therefore, must be kept at a lab during the whole science experiment. Samples can be collected from home.

VII. Display and safety rules and regulations:

The following items cannot be displayed at the Jordan District 5th/6th Grades Science Fair. (Pictures can be taken and mounted on the display board or on the table in their places.)

- Living organisms (e.g., plants, animals, microbes)
- Dried plant material--unless sealed in acrylic
- Taxidermy specimens or parts
- Preserved vertebrate or invertebrate animals (includes embryos)
- Human or animal food
- Human/animal parts or body fluids (e.g., blood, urine) (Exceptions: teeth, hair, nails, dried animal bones, histological dry mount sections that are completely sealed.)
- Soil or waste samples

JORDAN DISTRICT 5TH/6TH GRADES SCIENCE FAIR
RULES AND GUIDELINES

(Continued)

- Laboratory/household chemicals, including water (e.g., bleach, detergents, etc.)

- Poisons, drugs, over-the-counter medications, controlled substances, hazardous substances or devices (e.g., firearms, weapons, ammunition, reloading devices)
- Dry ice or other sublimating solids
- Sharp or breakable items (e.g., knives, scissors, syringes, needles, pipettes, glass)
- Flames or highly flammable display materials (e.g., candles)
- Empty tanks that previously contained combustible liquids or gases, unless certified as having been purged with carbon dioxide
- Batteries with open-top cells
- Awards, medals (from past competitions), business cards, flags, etc.
- Personal photographs showing accomplishments, acknowledgments, addresses, and phone and fax numbers are not permitted for display or in handouts but may be included in the research/data book. Pictures of the student or the student's family conducting the experiment are permitted. Pictures of anyone other than the student or the student's family are not allowed unless parents give their written consent.
- Photographs or other visual presentations depicting vertebrate animals in surgical techniques, dissection, other lab techniques, improper handling methods, improper housing conditions, etc.

VIII. Items allowed for display—Not Operating:

- Projects with shielded belts, shielded pulleys, shielded chains, and shielded moving parts with tension or pinch points may be displayed.
- Class III and IV lasers

IX. Items acceptable for display and operation—with restrictions:

- Class II lasers--must be student-operated, posted sign must read: "Laser Radiation: Do Not Stare into Beam", must have protective housing that prevents access to beam.
- Large vacuum tubes or dangerous ray-generating devices must be shielded properly.
- Pressurized tanks that are noncombustible may be allowed if secured.
- Any apparatus producing temperatures that will cause physical burns must be adequately insulated.
- High-voltage (over 12 volts) equipment must be shielded with a grounded metal box or cage to prevent accidental contact
- High-voltage (over 12 volts) wiring, switches, and metal parts must have adequate insulation and overload safety devices and must be inaccessible to others

X. Maximum project size at the District Fair:

30 inches deep; 48 inches wide; 108 inches high

Jordan School District reserves the right to remove anything displayed in a student's science fair project that may be deemed hazardous or inappropriate for public safety.

The Engineering Design Process Journal*

All students entering an engineering project in the school science fair must have a journal (log). The journal is the literacy that connects the writing, thinking, research, planning, building, testing, and conclusion to engineering project. Everything that is written in the journal can be questioned by the interviewer.

The journal consists of four main parts:

- Title page
- Table of Contents page
- The Engineering Design pages
- The Bibliography page

1. Title Page

The title page consists of the project title, student name, school, and date.

2. Table of Contents

The table of contents consists of the following topics (the engineering design process) with page numbers so these topics are easily found.

- Define a need
- Research
- Design Requirements
- Preliminary Designs
 - Beginning Designs
 - List of Materials
 - Step-by-Step Procedure
- Building and Prototype Testing
 - Building the Prototype
 - Testing and Recording
- Redesigning, and Retesting
- Conclusion

3. The Engineering Design

(See the Engineering Design process page to know what should be written on each page.)

- Define a Need page
- Research page(s).
- Design Requirement page
- Preliminary Designs
 - List of Materials page
 - Step-by-Step Procedure page
- Building the Product page
 - Testing and Data page
- Redesigning and retesting page
- Conclusion page

4. Bibliography

Write a list of the three or more sources you used for research by telling the type of source, title, and page numbers (if applicable).

***These journal instructions are only for projects using the Engineering Design. If you did a project using the Scientific Method or Computer Design, you will need to get those journal instructions from your teacher.**

The Engineering Design Process Display Board*

Create a display board so your findings can be shown at the science fair. It is a summary of your project and reflects your journal. This is your showcase. Make it creative and colorful. Below are ideas for a good display board.

- Physically sound and durably constructed, able to stand by itself.
- Title of your project at the top.

- Show all the steps of the engineering design process (except the research) with a brief explanation of each: the need, design criteria, preliminary designs, building, testing, redesigning and retesting as needed, and conclusion. The research will be in the journal.
- Well-organized and easy to follow from one idea to the next.
- Neat, edited, and without scribbles and misspelled words.
- Creative, pleasing to look at, colorful, with different font sizes to show emphasis.
- Photos of the developing experiment. (Only the students doing the experiment and family members can be displayed on the board. Others need parent permission if under 18 years of age.)
- Drawn pictures, artwork, and icons that bring out the ideas of the experiment.
- The journal should be in front of the display.

Students like to display items they used when doing their experiments. For reasons of safety the following items cannot be displayed at the school and district fairs. This is also found on Page D of the Central Utah Science and Engineering Fair (CUSEF) Registration Form.

- | | |
|---|---|
| <ul style="list-style-type: none"> • Living organisms • Plant material (living, dead, or preserved) • Taxidermy specimens or parts • Preserved animals including embryos • Human or animal food including seeds • Human or animal parts or body fluids • Soil, sand, or waste samples • Laboratory/household chemicals including water • Poisons, drugs, hazardous substances or devices • Sharp items, scissors, glass, syringes, needles • Dry ice or other sublimating solids | <ul style="list-style-type: none"> • Flames or high flammable materials • Empty tanks that previously contained combustible liquids or gases • Batteries with open top cells • Photographs of children under 18 other than yourself or your family without parental written permission • Photographs or other visual presentations depicting vertebrate animals in surgical techniques, dissection, necropsies, other lab techniques, improper handling methods, improper housing conditions, etc. |
|---|---|

Pictures of these items can be placed on the board except the last bullet.

Schools and Jordan District have the right to remove these things above and anything else that may be dangerous to the public.

***These display board instructions are only for projects using the Engineering Design. If you did a project using the Scientific Method or Computer Design, you will need to get those display board instructions from your teacher.**

The Engineering Design Interview*

The judge's interview gives you the opportunity to explain your project. The judge wants to know how much you know about your project.

- | | |
|---|---|
| <ul style="list-style-type: none"> • How you received the idea • How you personalized it to make it unique • How you prepared it | <ul style="list-style-type: none"> • How you set it up • What information you discovered • What the information means • What your conclusion is |
|---|---|

The judge also wants to know your background knowledge about the subject you chose. Some of the judges' questions may not be about your project. He/she may ask questions related to your topic. For example, if you did an experiment about bacteria growth found in different places, it would be well to know about the different kinds of bacteria that exist, the bacteria that do and don't cause diseases, and the substances that have been discovered to fight against bacteria growth. Even though this information is not entirely what your project is about, it shows you have done research about bacteria.

Some questions that might be asked:

- Explain where you got your idea for the project.
- What did you do to personalize it and make it unique?
- Explain the project method you used.
- Why did you choose this subject?
- What are your controls?
- What are your variables?
- Explain your results.
- Describe your graph.
- Explain your conclusion.
- How does the result relate to your background knowledge?
- How does the result help you in understanding the world better?
- Does your project have practical applications?
- Specific background knowledge about your subject.
- What problems did you run into?
- How could you have improved your project?
- If you did it again, what would you change?
- What questions do you have now?
- Tell some ideas you learned from your research.
- How did the research help you with your project?
- How much time did you spend on your project?
- How did others help you or give you ideas?

Be excited about your project when you speak. Don't talk too fast. Elaborate on your answers. Help the judge understand your project by speaking clearly in an organized manner so it's not confusing. **You need to show evidences of learning.**

Judges do not want you to redo your experiment for them. Their interest lies in your knowledge of the scientific process, the project design, the display board, the results, and the knowledge you acquired.

***These interview instructions are only for projects using the Engineering Design Method. If you did a project using the Engineering or Computer Design, you will need to get those display board instructions from your teacher.**

2/13/12 5th/6th Grade Section S-DFP Page 7
JORDAN DISTRICT SCIENCE FAIR ENGINEERING JUDGING SHEET FIFTH GRADE AND SIXTH GRADES

Name(s) _____ **Judge Number** _____

School _____

Project Title _____ **#** _____

I. Journal/Log

Please Write Comments

Score

A. Title Page ○ Title, name, school, date.		No 0 Yes 1
B. Table of Contents ○ All sections of the engineering process listed.		No 0 Yes 1
C. Engineering Design Process ➤ Define a Need ○ A need for the project is defined.		/2
➤ Research ○ Information gathered from at least three different reliable sources.		No 0 Yes 1
○ Sufficient research notes taken with detail from the research.		/3
➤ Design Criteria ○ Clear statement of the requirements and expectations with an explanation why.		/2
➤ Preliminary Design ○ Beginning designs drawn with labeling showing progress toward the expectations.		/3
○ Detailed list of materials.		/2
○ Step by step construction procedure.		/2
➤ Building and Prototype Testing ○ Project built according to described plans with notes about the building experience.		/3
○ Sufficient data written for first testing.		/2
○ Descriptive observations about the results.		/2
➤ Redesign and retest ○ Redesigning drawn with labels showing more progress toward the expectations.		/2
○ Sufficient data written for follow-up testing.		/2
➤ Conclusion ○ Validation: Project works; results fit original purpose.		/2
○ Application: Value to the world.		/2
○ Revealed evidence of student learning.		/3
D. Bibliography ○ Listed sources used for research.		/1
E. Overall Journal Presentation ○ Neatness, organization, grammar, understandability.		/4
Each line has different point values. Please make sure you look at each point value before you give a score.	Side One Total	/40

2/13/12

5th/6th Grades

Section SDP

Page 8a

Category**Please Write Comments**

/3	II. The Display ○ Neat and edited.	
/8	○ Engineering process outlined for each step. (Except research need not be on the board.)	
/3	○ Engineering process is easy to follow and clear for understanding.	

/5	○ Creative board design.	
/1	○ Physically sound and durably constructed.	
/5	III. Interview ○ Able to explain background knowledge in field studied.	
/5	○ Able to explain the use of the engineering process and how the project was personalized.	
/5	○ Answers and elaborates on interview questions showing interest and excitement.	
/5	○ Able to connect the new information with prior knowledge.	
/5	IV. Project Design ○ Innovative procedure/approach to solve the problem.	
/5	○ Thoughtful and reasoned conclusion, showing a deep understanding.	
/5	○ Shows a true and concrete relationship between the project and real world situations.	
/5	○ Shows in-depth work with the engineering process.	
/60 Side Two Total	Each line has different point values. Please make sure you look at each point value before you give a score.	
/40 Side One Total		
/100 Total Score		

