School District No. 91

DISTRICT SCIENCE FAIR 2019

For students in Grades 4 – 12

Wednesday, Feb. 13, 2019

Location: Fraser Lake Elem. Sec. School

For more information please email:

sciencefair@sd91.bc.ca

District Science Fair 2019

WHEN / WHERE

The District Science Fair 2019 is scheduled for Wednesday Feb 13th, 2019 in Fraser Lake at FLESS. Participants from this District Science Fair may qualify for the Central Interior Science Exhibition (CISE) in Prince George (UNBC) scheduled for Saturday, March 2nd, 2019.

WHY PARTICIPATE

Science Fairs offer students the opportunity to create original scientific research, innovative projects and develop 21st Century learning skills; critical and creative thinking, collaboration and communication. Projects can be displayed at various levels of competition: school, district, regional, national and international.

Students who develop Science Fair projects agree that they enjoy project-based learning while investigating the world around them. Their Science Fair project work provides an opportunity to extend science beyond the classroom and to take an in-depth look at topics that are of interest to them personally. Please see the SD 91 District Science Fair page to access a variety of Science Fair resources.

TRANSPORTATION

With the Fair being "out of town" for most participants, the District will provide bussing for all students. As well, any parent volunteering as a chaperone for this event may travel on the bus. Due to safety regulations, displays will not be allowed on the bus and alternate arrangements will need to be made to transport these. Obtaining travel permissions forms will be the responsibility of the individual schools.

JUDGING

The first judging session will begin at 10:00 a.m., and the second at 11:45 am but all exhibitors are expected to be in place no later than 9:15 a.m. Judges will take some time before the formal judging begins to briefly review all of the projects in their age category. As well, the Fair will be open to the public and visiting school groups for a designated time after judging is complete. As per other years, we will have another Science presentation workshop for the students to participate in at a time when their project is not being judged.

PROJECTS REQUIRING ETHICS APPROVAL

Please note that any projects involving humans or animals must make application to the Ethics Committee before conducting the experiment. Ethics applications are available on the SD 91 'Science Fair' page. Ethics applications must be received at the School Board Office by Friday, January 25th, 2019. Applications may be submitted by email to sciencefair@sd91.bc.ca.

To ensure that your project will be eligible to compete, complete the Ethics and Safety Interactive Flowcharts and visit the Youth Science Canada website.

Remember DO NO HARM!!

Types of Projects

EXPERIMENT

An experiment involves the undertaking of an investigation to test a scientific hypothesis by the experimental method. At least one independent variable is manipulated; other variables are controlled. The best experimental projects involve original experimental research in which most significant variables are identified and controlled, and in which the data analysis is thorough and complete. In this category, we also include scientific studies. In this instance, the variables, because of their nature, may not be feasible to control. Therefore, instead of experimenting, the student would collect and analyze data to make meaningful correlations to reveal evidence to prove or disprove their hypothesis.

NON-EXPERIMENTAL[1]

A non-experimental project or demonstration-only project is one which does not test a hypothesis or use an experiment. Such projects typically are ones in which students gather and organize scientific information or objects to present or display. Projects in this category include demonstration of a scientific principle, making and testing a scientific model, demonstrating and application or improvement of existing technology. Although experimental projects tend to be more challenging, both experimental and non-experimental projects can be excellent ways to learn about science and extend scientific knowledge.

Presenting

Students will be grouped into pods. Pods will be organized so that each pod contains participants at the same Grade level. Grade level[2] categories will be:

- Grades 4 and 5
- Grades 6 and 7
- Grades 8 and 9
- Grades 10 to 12

Students are expected to give an oral presentation to explain their project to the other students and the judges in their pod. To the level appropriate for their grade, students should be prepared to answer the following prompts:

- What is the purpose of your project and what questions are you trying to answer?
- Tell us about your hypothesis and how you tested it?
- What variables did you manipulate and which variables remained consistent?
- What research they carried out; their data and results?
- Tell us about your analysis of the data and how it relates to your conclusion?
- What did you learn in this process and what would you do differently?

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[1] **A non-experimental (demonstration) project is NOT ELIGIBLE to participate in the Central Interior Science Exhibition.**

2 Depending on the number of students participating, we may be able to have single grade groupings.

- What are some real life applications related to your project?
- What new questions were generated from your project?
- Who helped you?

Projects that move on to the CISE will be expected to include a Project Summary book in their presentation so we encourage students to do this at the District level as well. This hard copy summary of the project should be five pages long or less, and include a bibliography. Judges might use it to give an overview of the project before they begin more intense interviews. It includes purpose, hypothesis, a summary of procedures, and results and conclusions. It doesn't usually include observations. For students in Grades 7 through 12, a Summary Abstract is also required. This is a one page written summary of the project, giving an overview of the same things as the Project Summary, but in very brief form. As well, Log Books are required for all projects and should include all the papers, notes, observations, and any other written documentation that was collected during the entire process of the experiment/project.

It is important for students to remember that the Judges may return to any project for clarification or to ask a few more questions after their initial judging session is complete. Therefore, it is important to remain close by your project at all times.

Judges will prepare comment sheets for each project at the completion of the judging process. These comment sheets will be handed out by each school, along with the participation certificates. The comments are intended to provide positive feedback about the project, encouragement and constructive suggestions for the students.

RULES AND REGULATIONS[3]

A. GENERAL RULES

1. Late entries will not be accepted. All entries MUST be received on or before Wed, February 6, 2019.
2. The committee reserves the right to reject any project proposal, particularly those involving the use of dangerous chemicals or experiments on vertebrates (animals with back bones). SEE SECTION B BELOW.
3. Placement of projects in categories, divisions and pods will be at the discretion of the Science Fair Co-coordinator.
4. Only one entry is allowed for any individual or group. A group shall not be larger than two (2) students.
5. All displays are to be the work of the entrants. Advice from outside sources should be acknowledged.
6. The welfare of plants and animals, and specialized technical devices used in the projects will be the responsibility of the entrant(s).
7. No displays contrary to policies of S.P.C.A. will be accepted. (e.g. vivisection, food deprivation of animals). Please note: Experiments of vertebrate animals must be approved by the Science Fair Committee.
8. While every effort will be made to prevent damage to exhibits, neither School District No. 91, nor the Science Fair Committee or Co-coordinator assume the responsibility for the loss or damage to any exhibit or part thereof.
9. Each display must be tended always by at least one student or supervisor.
10. Exhibits must be no larger than .80m deep by 1.2m wide. Height is limited to 3.5m. Tables will be provided. NOTE: Oversize entry may be penalized 10% and may be disqualified for the C.I.S.E. and the Canada Wide Science Fair.
11. The Chief Judge's decision is final.

3 (adapted from Youth Science Federation and C.I.S.E. rules)

12. Each participant is responsible for the removal of his/her project after the exhibition, and for the clean-up of his/her allocated space.
13. Only projects that are recommended to compete in the Central Interior Science Exhibition (generally those projects that have placed in the experimental category in the District Science Fair) will be eligible to register for the C.I.S.E. Again, these decisions are made by the Chief Judge, in conjunction with the Science Fair Judges, and the decision of the Chief Judge will be final.

B. SAFETY RULES AND REGULATIONS[4]

1. Experiments involving Animals or Humans……please review the policy and required application forms.
2. Use of Electricity and Chemicals
    a. All switches and cords for 100V operation must be of the approved type, and provided by the participant(s).
    b. The use of open flame, combustibles, flammable chemicals, harmful caustic substances is prohibited. Where these need to be displayed, they can be replaced by a harmless material labeled with the name of the material for which the substitution is made.
3. Growing Bacteria: any projects involving bacteria growth must take place in a licensed laboratory, under the supervision of a licensed laboratory technician. Bacteria must NOT be brought to the fair.

C. DISPLAY GUIDELINES

1. The exhibit must be self-supporting either with a back which is part of it or with various forms of braces. Some materials which may be considered are plywood, masonite, cardboard with a frame of wood to give it strength.
2. Nothing can be fastened to the floor space, table or leaned against walls.
3. For the background wings use inexpensive hinges or tape (duct tape works well).
4. Exhibit dimensions must be no larger than must be no larger than: Width 1.2 m/ Depth 0.8 m/ Height is limited to 3.5 m. A standard display board (sold at Staples) is W: 1.2 m/ D: 0.6 m/ H: 1 m.
5. Moveable parts must be firmly attached and safe.
6. Be sure your **NAME** and **GRADE** are on your project.
7. Make the title LARGE, CLEAR and NEAT. Make all lettering and signs as clear and effective as a good sign-board or advertisement might be. Labeling should be neat and informative, explanations clear and concise. An appropriate picture or diagram can often be better than many words.
8. A hint: emphasize the use of greens and yellows on your project if it pertains to nature. Use reds, blues and black if your project is technical.
9. Photographs, diagrams, graphs, sketches, etc. help the project to “come alive”. Apparatus used in the experiment(s) should be displayed or used for demonstration purposes, when explaining your exhibit.
10. Include in the display, perhaps in a folder, as much material as possible (anything you are unable to display by the normal means). For example, this could include background information, more detailed results (if only summaries are presented), pamphlets, communications with firms, etc.
11. It is important to ensure that your display, including all apparatus and equipment used, can be easily and safely transported. School District No.91 cannot be responsible for any damage to your project, either during transportation or display.
12. Further specific information will be sent out if the Youth Science Foundation or C.I.S.E. updates or changes their rules.

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[4] **Prior approval may be required for any of the following. See note regarding approval deadline in the opening letter and instructions for Experimental Projects**