

REGENERON WESEF 2019

The Westchester Science & Engineering Fair



Rules and Participation Handbook



March 16th, 2019
Sleepy Hollow High School
Sleepy Hollow
www.WESEF.org



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Important Dates to Know

Nov 30 2018	Online student registration must be submitted by teachers
Dec 20 2018	Participant's research paper, abstract, entry fees, and all forms must be postmarked by this date
Jan 18 2019	Optional extended deadline for participant's research paper, abstract, and all forms must be postmarked by this date. (Late fee of \$100 in addition to the normal \$50 fee, must have been submitted by Dec 20 2018)
Mar 15 2019	Poster Set-Up & Check out Form 4-8pm Sleepy Hollow HS
Mar 16 2019	WESEF - Day of Fair 9am to 9pm
May 12-17 2019	INTEL ISEF - Phoenix, Arizona
June 17-21 2019	Genius Olympiad - SUNY Oswego, NY

NEW FOR WESEF 2019:

- Added sample Rubrics & Check out Form to the handbook
- Digital signatures are allowable on WESEF forms but must be traceable with date/time stamp
- No more expedited review for IRBs
- Form 1C is now 2 pages to allow for extra room to elaborate
- Form 7 (Continuation Form) - You may submit additional pages as necessary
- ISEF will be held in Phoenix, AZ!
- ISWEEEP is discontinued

Introduction

The Westchester Science & Engineering Fair (WESEF) provides over 500 students from all area high schools in Westchester, Putnam and Sullivan counties, the opportunity to showcase their multi-year, (STEM), research projects in a competitive venue. The students are judged by local experts in the fields of life science, physical science, environmental studies, psychology and engineering.

Over 60 percent of the presenters win an award. The Grand Prizes are trips to either the Intel International Science & Engineering Fair (ISEF) or the International Sustainable World Project Olympiad (ISWEEEP). Both of these international fairs, bring together hundreds of science fair winners from all over the world to compete against each other.

The opportunities that WESEF and their corporate donors have provided have helped to shape the future of thousands of local area high school students in addition to helping to support and build STEM education programs throughout the region.



2018 Participating Schools

Any student from grades 9 - 12 in public, private, homeschool, or parochial school in Westchester, Putnam, and Sullivan counties of New York State may enter WESEF.

Ardsley HS	Blind Brook HS	Briarcliff HS
Byram Hills HS	Carmel HS	Croton-Harmon HS
Dobbs Ferry HS	Eastchester HS	Edgemont HS
Fox Lane HS	Hackley HS	Harrison HS
Hastings HS	Hendrick Hudson HS	Horace Greeley HS
Irvington HS	John Jay HS	Lakeland HS
Lincoln HS	Mahopac HS	Mamaroneck HS
New Rochelle HS	Ossining HS	Peekskill HS
Pelham HS	Pleasantville HS	Portchester HS
Putnam Valley HS	Rye Country Day School	Rye HS
Scarsdale HS	Sleepy Hollow HS	Somers HS
Soundview Prep	Ursuline School	Valhalla HS
Walter Panas HS	Westlake HS	White Plains HS
Yorktown HS		

Registration Checklist for WESEF

November 30th 2018

- Teachers must register student projects online
- Students may not register electronically without the supervision of the teacher. We realize it is time consuming but it avoids several mistakes down the road including incorrect category placement and even possible disqualification.
Link for school registration: www.wesefreg.org
- It is important that the teacher double checks each question for each student has been answered. Failure to do so may make the student ineligible for certain awards.
- Once the registration deadline has passed, NO ADDITIONAL students will be allowed to register. Therefore, teachers - please double check your WESEF registration list against your class roster.
- Print two copies of the completed registration form. Keep one copy to cross reference the students with their categories when sending in the official WESEF abstract form.
- Include a printed version of the registration form when the research papers, forms, abstracts and payment are submitted on Dec. 20th.

December 20th 2018

Postmark date for submission of participant's research paper, abstract, all forms (see below for more info.) and entry fees (\$50 per student -not project). It is essential that you register only students that you are very confident will be ready for WESEF. **Fee is non-refundable.**

- Research plan must be in **Future Tense**
- Research plan should distinguish between role of mentor and role of student
- Teacher is the "Adult Sponsor"; Mentor is the "Supervising Scientist"
- Dates on ALL forms must be BEFORE the "Actual Start Date" on form 1A (**except 1C & 5B**)
- ONLY use the Official WESEF Abstract Form found at www.wesef.org NOT the INTEL ISEF abstract
- Be SURE that the category chosen on the official WESEF abstract form **matches** the category that the student was registered for.

**Any student that has chosen the optional, extended deadline (Jan. 18) MUST still submit forms 1, 1A, 1B and the research plan. In addition the fee for the optional, extended deadline (combined \$50 normal fee + \$100 late fee) must also be submitted at this time.

January 18th 2019 --- Optional Extended Deadline only for projects that registered in November and submitted the \$150 by the December 20, 2018 (combined \$50 normal fee + \$100 late fee)

- Late postmark date for: participant's research paper, abstract, entry fees, and all forms
- Any missing paperwork at this time with result in a disqualification

****Any student that has chosen the optional, extended deadline (Jan. 18) MUST still submit forms 1, 1A, 1B and the research plan. In addition the fee for the optional, extended deadline (\$150) must also be submitted by Dec. 20th!!**

Organizing Student Paperwork for Mailing:

Teachers, please use a new Manila folder for each project. Include Last Name, First Name and Category neatly written on the folder tab in permanent marker. Each folder must contain the following:

1. Rules Wizard print out with student name written on top ****New requirement this year****
2. Forms typed out (not handwritten). Submit all applicable forms in this order; 1, 1A, 1B, 1C, 2, 3, 4, 5A, 5B, 6A, 6B, 7. Handwritten mentor forms will be accepted, but are strongly discouraged.
3. Official WESEF Abstract Form
4. Research Paper

Please organize the folders by Last Name.

Place a printed copy of the WESEF registration for your school on top of the stack of folders.

Mailing Forms:

- Postmarked by **Dec 20, 2018**
- Only materials mailed by the teacher will be accepted. Students and mentors CANNOT mail forms.
- Entry Fees:**
 - \$50 per student (not project)- it is essential that you register only students that you are very confident will be ready for WESEF. **Fee is non-refundable.**
 - Any project that opts for the extended paperwork deadline must submit total payment of \$150. **Fee is non-refundable.**
 - Please plan ahead if your school/district will pay with a purchase order. There is usually a major delay between request for payment (PO) and when the check is written.

Final payment must be postmarked NO LATER than December 20th, 2018.

- Make all checks/purchase orders payable to **“WESEF”**
- Please PRINT the school name and student name on personal checks (one lump sum check is appreciated). **DO NOT SEND CASH!**
- Include a completed copy of the invoice with payment.
A copy of the WESEF W-9 form with our Tax ID and an invoice can be found on the website (www.wesef.org) under the “For Teachers” tab

Mail to:
 Angelo Piccirillo
 WESEF SRC Chair
 Ossining High School
 29 South Highland Ave.
 Ossining, NY 10562

Project Categories

Many projects could easily fit into more than one WESEF category. We highly recommend that you review the entire listing of the categories on the [Intel ISEF site](#) before choosing the category that most accurately describes your project.

WESEF Categories	
<p>Animal Science (AS): Includes all aspects of animals and animal life, animal life cycles, and animal interactions with one another or with their environment.</p>	<p>Behavioral Science (BE): The science or study of the thought processes and behavior of humans and other animals in their interactions with the environment studied through observational and experimental methods.</p>
<p>Biochemistry (BI): The study of the chemical basis of processes occurring in living organisms, including the processes by which these substances enter into, or are formed in, the organisms and react with each other and the environment.</p>	<p>Cellular & Molecular Biology (CB): This is an interdisciplinary field that studies the structure, function, intracellular pathways, and formation of cells. Studies involve understanding life and cellular processes specifically at the molecular level.</p>
<p>Chemistry (CH): Studies exploring the science of the composition, structure, properties, and reactions of matter not involving biochemical systems.</p>	<p>Computational Biology & Bioinformatics (CBIF): Studies that primarily focus on the discipline and techniques of computer science and mathematics as they relate to biological systems.</p>
<p>Computer Science (CO): The study or development of software, information processes, or methodologies to demonstrate, analyze, or control a process/solution.</p>	<p>Earth & Planetary Science (ES): Studies of Earth and other planetary systems and their evolution.</p>
<p>Engineering (ENG): Studies that focus on the science and engineering that involve movement or structure. The movement can be by the apparatus or the movement can affect the apparatus. Additionally, projects that involve the application of engineering principles and design concepts.</p>	<p>Environmental Science (ENV): Studies of the environment and its effect on organisms/systems, including investigations of biological processes such as growth and lifespan.</p>
<p>Mathematics (MA): The study of the measurement, properties, and relationships of quantities and sets, using numbers and symbols. The deductive study of numbers, geometry, and various abstract constructs, or structures.</p>	<p>Medicine & Health (ME): This category focuses on studies specifically designed to address issues of human health and disease.</p>
<p>Microbiology (MI): The study of microorganisms, including bacteria, viruses, fungi, prokaryotes, and simple eukaryotes as well as antimicrobial and antibiotic substances.</p>	<p>Neuroscience (NS): Projects related to neurology and cognitive neuroscience.</p>
<p>Physics & Astronomy (PHAST): Physics is the science of matter and energy and of interactions between the two. Astronomy is the study of anything in the universe beyond the Earth.</p>	<p>Plant Science (PS): Studies of plants and how they live, including structure, physiology, development, and classification. Includes plant cultivation, development, ecology, genetics and plant breeding, pathology, physiology, systematics and evolution.</p>

Rules for Participating in WESEF

Ethics Statement

Scientific fraud and misconduct are not condoned at any level of research or competition. This includes plagiarism, forgery, use or presentation of other researcher's work as one's own and fabrication of data. Fraudulent projects will fail to qualify for competition in affiliated fairs and the Intel ISEF. Society for Science & the Public reserves the right to revoke recognition of a project subsequently found to have been fraudulent.

Eligibility

1. Any student in grades 9-12 or equivalent, enrolled in a public, private, parochial, or home school in the region covered by WESEF (List Counties?) is eligible to participate in WESEF.
2. Students may not have reached 21 years of age, on or before May 1st of the event year.
3. Each student may enter only one project summarizing data collection or research findings which cover a maximum of 12 continuous months between January 2018 and May 2019.
4. Students are not permitted to simultaneously enter another regional ISEF-affiliated science fair (including the NYS Science Fair) without prior written consent of the WESEF board.
5. **Team projects** may have a maximum of three team members. A team with members from different geographic regions may compete at WESEF, but not at multiple fairs. Each team is encouraged to appoint a team leader to coordinate the work and act as spokesperson. However, **each member of the team should be able to serve as spokesperson, be fully involved with the project, and must be familiar with all aspects of the project.** The final work should reflect the coordinated efforts of all team members and will be evaluated using similar rules and judging criteria as individual projects.
6. Projects that are demonstrations, 'library' research or informational projects, 'explanation' models or kit building are not appropriate for the Intel ISEF.
7. A research project may be a part of a larger study performed by professional scientists, but the project presented by the student must be only their own portion of the complete study.

General Requirements

1. All students competing in WESEF must adhere to all of the rules as set forth in this document.
2. All projects must adhere to the **Ethics Statement** above.
3. It is the responsibility of the student researcher(s) and the Adult Sponsor to evaluate the study to determine if the research will require forms and/or review and approval prior to experimentation, especially projects that include human participants, vertebrate animals, or potentially hazardous biological agents.
4. Projects must adhere to local, state and U.S. Federal laws, regulations and permitting conditions. In addition, projects conducted outside the U.S. must also adhere to the laws of the country and jurisdiction in which the project was performed.
5. The use of non-animal research methods and the use of alternatives to animal research are strongly encouraged and must be explored before conducting a vertebrate animal project.
6. Introduction or disposal of non-native and/or invasive species (e.g. insects, plants, invertebrates, vertebrates), pathogens, toxic chemicals or foreign substances into the environment is prohibited. It is recommended that students reference their local, state or national regulations and quarantine lists.
7. WESEF projects must adhere to Intel ISEF display and safety requirement

Project Display

Maximum Size of Project

Depth (front to back): 30 inches or 76 cm

Width (side to side): 48 inches or 122 cm

Height (floor to top): 108 inches or 274 cm

Please be aware when ordering posters that the mechanism that supports the poster should conform to the maximum size limitations stated above.

- All project materials and support mechanisms must fit within the project dimensions.
- At WESEF, fair-provided tables will not exceed a height of 36 inches (91 centimeters).
- If a table is used it becomes part of the project and must not exceed the allowed dimensions.

Display Content for Projects Conducted at a Research Institution

The display must reflect only the work conducted by the finalist. Minimal reference to mentor's or other researcher's work must only reflect background information or be used to clarify differences between finalist's and others' work.

Photograph/Image Display Requirements

Display of photographs other than that of the finalist must have a photo release signed by the subject, and if under 18 years of age, also by the guardian of the subject. Sample consent text: "I consent to the use of visual images (photos, videos, etc.) involving my participation/my child's participation in this research." (These forms must be available upon request by a Display & Safety inspector, but shall not be displayed.)

PLEASE DO NOT INCLUDE THE FOLLOWING AS PART OF YOUR WESEF DISPLAY:

- Abstracts
- Mentor Names or Photographs
- Institution Names, Logos, or Photographs
- School Names, Logos, or Photographs
- Images showing graphic content

The Following are Not Allowed at Project or Booth

1. Living organisms, including plants
2. Soil, sand, rock, cement and/or waste samples, even if permanently encased in a slab of acrylic
3. Taxidermy specimens or parts
4. Preserved vertebrate or invertebrate animals
5. Human or animal food as part of the exhibitor demonstration of the project.
6. Human/animal parts or body fluids (for example, blood, urine)
7. Plant materials (living, dead, or preserved) that are in their raw, unprocessed, or non-manufactured state (Exception: manufactured construction materials used in building the project or display)
8. All chemicals including water (Projects may not use water in any form in a demonstration)
9. All hazardous substances or devices (Example: poisons, drugs, firearms, weapons, ammunition, reloading devices, and lasers)
10. Items that may have contained or been in contact with hazardous chemicals (Exception: Item may be permitted if professionally cleaned and document for such cleaning is available)
11. 3-D Printers
12. Dry ice or other sublimating solids
13. Sharp items (for example, syringes, needles, pipettes, knives)
14. Flames or highly flammable materials (including magnified light sources). A Fresnel Lens cannot be used in conjunction with a light source - it becomes an open flame
15. Batteries with open-top cells or wet cells
16. Glass or glass objects unless deemed by the Display and Safety Committee to be an integral and necessary part of the project (for example, glass that is an integral part of a commercial product such as a computer screen)
17. Any apparatus deemed unsafe by the Scientific Review Committee, the Display and Safety Committee, or Society for Science & the Public (Example: large vacuum tubes or dangerous ray-generating devices, empty tanks that previously contained combustible liquids or gases, pressurized tanks, etc.)

Roles & Responsibilities of Students & Adults

The Student Researcher(s)

The student researcher is responsible for all aspects of the research project including enlisting the aid of any required supervisory adults (Adult Sponsor, Qualified Scientist, etc.), obtaining necessary approvals (SRC, IRB, etc.), following the Rules & Guidelines of the Intel ISEF, and performing the experimentation, engineering, data analysis, etc.

Scientific fraud and misconduct are not condoned at any level of research or competition. This includes plagiarism, forgery, use or presentation of other researcher's work as one's own, and fabrication of data. Fraudulent projects will fail to qualify for competition. WESEF reserves the right to revoke recognition of a project subsequently found to have been fraudulent.

The Adult Sponsor

An Adult Sponsor may be a teacher (preferred), parent, professor, and/or other professional scientist in whose lab the student is working. This individual must have a solid background in science and should have close contact with the student during the course of the project. The Adult Sponsor is responsible for ensuring the student's research is eligible for entry in the Intel ISEF.

Qualified Scientist

A Qualified Scientist should have earned a doctoral/professional degree in a scientific discipline that relates to the student's area of research. Alternatively, the SRC may consider an individual with extensive experience and expertise in the student's area of research as a Qualified Scientist. The Qualified Scientist must be thoroughly familiar with local, state, and federal regulations that govern the student's area of research.

Designated Supervisor

The Designated Supervisor is an adult who is directly responsible for overseeing student experimentation. The Designated Supervisor need not have an advanced degree, but must be thoroughly familiar with the student's project, and must be trained in the student's area of research. The Adult Sponsor may act as the Designated Supervisor.

Scientific Review Committee (SRC)

The WESEF Scientific Review Committee (SRC) is a group of qualified individuals that is responsible for evaluation of student research, certifications, research plans and exhibits for compliance with the rules, applicable laws and regulations at each level of science fair competition. Most proposed research projects involving vertebrate animals and/or potentially hazardous biological agents must be reviewed and approved BEFORE experimentation. Local or regional SRC prior review is not required for human studies previously reviewed and approved by a properly constituted IRB.

ALL projects, including those previously reviewed and approved by an IRB must be reviewed and approved by the SRC after experimentation and before competition in an Affiliated Fair. Projects which were conducted at a Regulated Research Institution (not home, high school or field) and which were reviewed and approved by the proper institutional board before experimentation, must also be approved by the Affiliated Fair SRC.

Institutional Review Board (IRB)

An Institutional Review Board (IRB), is a committee that must evaluate the potential physical and/or psychological risk of research involving humans. All proposed human research must be reviewed and approved by an IRB before experimentation begins. This includes review of any surveys or questionnaires to be used in a project.

Federal regulations require local community involvement. Therefore, it is advisable that an IRB be established at the school level to evaluate human research projects. An IRB must consist of a minimum of three members including the following: an educator, a school administrator (preferably principal or vice principal), and a medical or mental health professional.

To avoid conflict of interest, no Adult Sponsor, parent or other relative of the student, the Qualified Scientist, or Designated Supervisor who oversees the project may serve on the IRB reviewing that project.

Message from the WESEF Scientific Review Committee

Prior to attempting to complete any documentation for entry to WESEF, we strongly recommend that students communicate with mentors and/or adult sponsors to firmly grasp the extent of the research and the necessary documentation that WESEF requires for the student's project.

Furthermore, all students **MUST submit a print out** of the Intel ISEF Rules WIZARD—Summary with their forms.

The Rules Wizard is available at:

<https://apps2.societyforscience.org/wizard/index.asp>



Top Five WESEF Paperwork Problems to Avoid:

1. Research Plan does not provide detailed information and fails to support documentation provided
 - Must include proposed and actual start and end dates
 - Must include detailed research plan
 - Must have all work site information completed
 - Must identify student and mentor role
2. Missing Designated Supervisor Form 3
 - Must be completed for projects that involve chemicals, equipment, or other potential hazards
 - Often missing, and often incomplete without description of safety precautions taken
3. Project duration not within calendar year
4. Missing IRB signatures on form 4.
5. Tissue analysis projects are identified as vertebrate animal projects.

Common Reasons a Project Would “Fail to Qualify” at WESEF/ ISEF:

1. **Human, vertebrate animal, or PHBA studies that did not have pre-approval**
 - Need IRB preapproval for human participant studies
 - Need SRC or IACUC pre-approval for vertebrate animal studies
 - Need SRC or IBC pre-approval for PHBA studies
2. **Prohibited Vertebrate Animal Studies**
 - Studies done at home/school/field that should have been done at a regulated research institution
 - Studies that caused more than momentary pain or suffering or that were designed to kill
 - Induced toxicity studies
 - Predator/vertebrate prey experiments

- Studies where student performed euthanasia on a vertebrate animal
 - Studies with an animal death in any group or subgroup due to the experimental procedures
 - Studies where animals have a weight loss greater than or equal to 15%
 - Studies where there was an inappropriate restriction of water or food
 - Studies treated as embryonic studies that were actually vertebrate studies
3. **Prohibited Studies using Potentially Hazardous Biological Agents (PHBA's)**
- Microorganisms were cultured at home
 - BSL-2 studies (including opening plates or containers of unknown microorganisms) done in a BSL-1 lab
 - Studies using human and other primate established cell lines without SRC pre-review and approval
4. **Prohibited Human Participant Studies**
- Studies where the IRB required written documentation of consents which were not obtained
 - Studies where the student used surveys/questionnaires without IRB pre-review and approval
5. **Eligibility Problems**
- Student worked with a partner or team but competed as an individual, or vice versa
 - Project was more than 1 year in length or was too old
 - More than three students on a team
 - Student was from outside of our affiliate region, must attend a different ISEF affiliated fair
 - Student missed deadlines for registration, paperwork, or entry fee
 - Failed to set-up poster display on Friday before WESEF
6. **Scientific Misconduct**
- Plagiarism
 - Student presented mentor's research as his/her own
 - Falsification of data
 - Student did not generate original data beyond library research/ literature review



Judging at WESEF

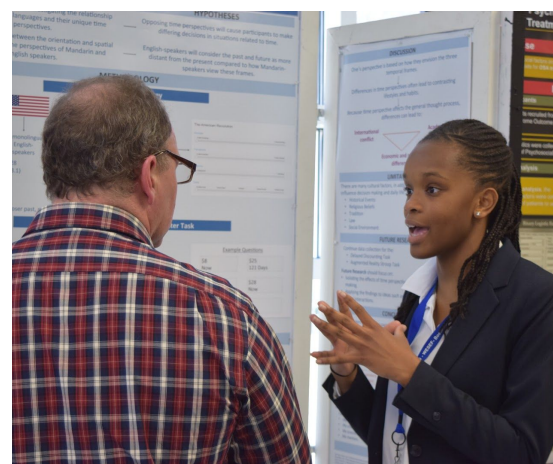
The Judging Process

- Judges are permitted to preview the poster displays in the morning before the fair begins and before students are allowed on the floor.
- Projects will have 5 official judge interviews; the students should be prepared to give a 7 minute summary of their research. Judges are then permitted 5 minutes for Q&A.
- There will be official judging periods, indicated by a tone which will signal the start and finish of each judging session. Judges will then have a 5 minute window to score rubrics and move to the next poster.
- In some cases, Special Awards Judges will also meet with and interview students
- Under no circumstances should a Judge review a student project for which there may be a conflict of interest. Judges are asked to recuse themselves from any projects where they do not feel they can fairly assess a student project.



Advice for Judges

- Examine the quality of the student's work, and how well the student understands his or her project and area of study. The physical display is secondary to the student's knowledge of the subject. Look for evidence of laboratory, field or theoretical work, not just library research or gadgeteering.
- Judges should keep in mind that competing in a science fair is not only a competition, but an educational and motivating experience for the students. The high point of the fair experience for most of the students is their judging interviews.
- As a general rule, judges represent professional authority to Finalists. For this reason, judges should use an encouraging tone when asking questions, offering suggestions or giving constructive criticism. Judges should not criticize, treat lightly, or display boredom toward projects they personally consider unimportant. Always give credit to the Finalist for completing a challenging task and/or for their success in previous competitions.
- Compare projects only with those competing at this Fair and not with projects seen in other competitions or scholastic events.
- Please be discreet when discussing scores or making critical comments, as students, mentors, or teachers might overhear. Results are confidential until announced at the awards ceremony.



Awards & Honors

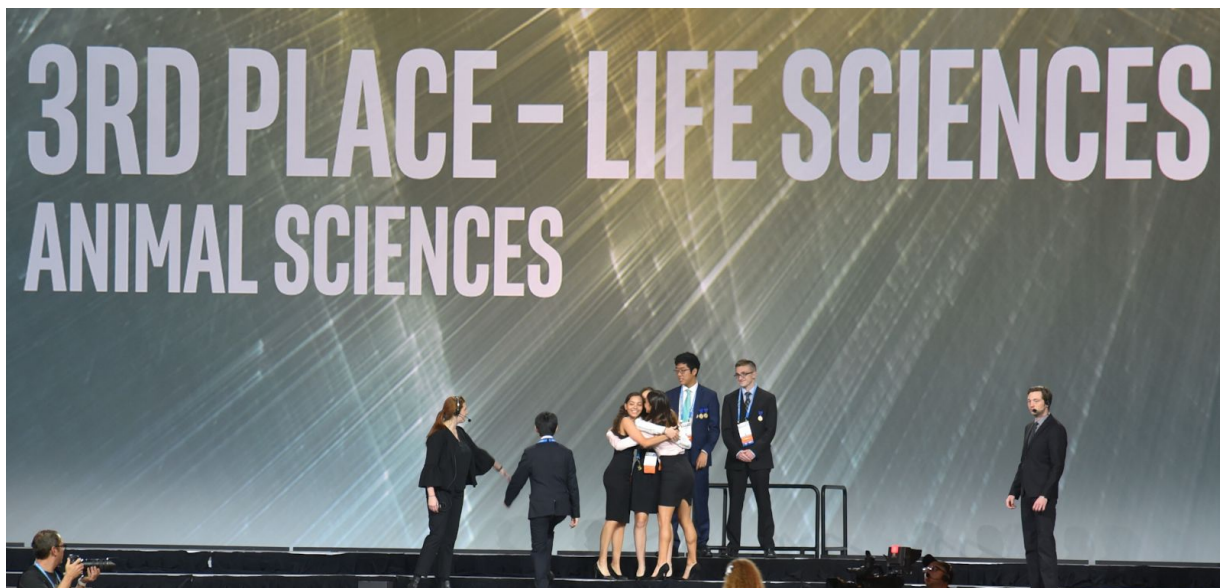
At the 2018 Westchester Science & Engineering Fair, over \$100,000 in awards and prizes were made possible. Approximately 60% of all participants received an award at the WESEF Awards Ceremony, thanks to the generous support from our local and ISEF affiliated donors.

Grand Awards:

Determined by Score: Each student project is judged 5 times, with the lowest score being dropped; the remaining scores are added to produce a final score which allows us to distribute awards and select Finalists.

Intel ISEF: The top twelve scoring individuals and up to three teams are selected to represent our region at the Intel International Science & Engineering Fair. This honor includes:

- A celebration banquet in their honor sponsored by Regeneron, Acorda, Entergy and the Boehringer-Ingelheim Cares Foundation
- An all expense paid trip to the Intel International Science and Engineering Fair to compete against the best research students from all over the world thanks to the continuous support of our donors including Regeneron, Acorda, Entergy and the Boehringer-Ingelheim Cares Foundation.



Genius Olympiad: Up to 9 student projects (excluding senior projects) will qualify through WESEF to attend the Genius Olympiad (all expenses paid) held annually in June at SUNY Oswego. This international fair draws students from over 70 countries. More info about this event can be found at <https://www.geniusolympiad.org>. If a student wins through WESEF, the school does not have to provide a chaperone.



- Students can also enter this competition by independently submitting a research paper to <https://www.geniusolympiad.org/>. If a student wins by paper (not through WESEF), he/she will be welcome to travel with the WESEF group under the following conditions: 1) an additional cost of \$300 per student will be required to cover travel related expenses including the bus to and from Oswego and (possibly) transportation to and from the Regents exams which will have to be scheduled by your school/teacher to be taken at one of the local public high schools in Oswego County. 2) The science research teacher must accompany the student on the trip as the chaperone travelling with the larger WESEF group. The science research teacher (chaperone) is required to pay the \$300 transportation fee and accommodation costs. If the science research teacher is unable to chaperone for the full trip, WESEF cannot assist with your participation at Genius Olympiad.
- Teachers of students who win a spot through WESEF or by paper submission must do the following **IMMEDIATELY**:
 - Teachers must make a list of which students need to take which Regents exams during the Genius Olympiad time frame (Student names, school name, tests they need to take)
 - Teachers need to contact their principal and ask that they **IMMEDIATELY** call the Oswego HS principal to request that your student(s) be allowed to take the Regents at Oswego HS. It is important that all Genius Olympiad finalists traveling with WESEF be accommodated at Oswego HS and not be split at different schools.
 - Teachers need to ask the principal, guidance department, or related academic department of their school to determine how the Regents (LHRIC) pre-printed answer sheet(s) will get to Oswego HS and then back to your school.

Category Awards

Category awards are given to students in each of the categories represented at WESEF. Approximately 40% of students receive a category award with multiple winners at 1st, 2nd, 3rd and 4th place. Category winners receive a monetary award and a medal. Monetary awards will be mailed to teachers by early May.



Special Awards:

Special awards are sponsored by local organizations as well as by national organizations through our affiliation with ISEF. Special awards are chosen based on a combination of both established criteria for each award and student score. Answering the questions presented to each student during online registration for WESEF helps us to narrow down the potential winners for each of these awards. In 2018, approximately 150 special awards were given at WESEF from local organizations such as Teatown, Westchester Academy of Westchester, Regeneron and many more!

Awards Ceremony:

The awards ceremony will be held on March 16, 2019 at 7:00 PM in the Sleepy Hollow High School Gymnasium. Students who are unable to attend the awards ceremony should have a fellow student or teacher pick up their award for them.

Award winners will be given specific instructions on how to claim their award. Please carefully read the instructions provided at the awards ceremony as each award has different requirements. While some awards require no additional action, it is up to the student to follow through on the directions to receive their awards. Certificates and monetary awards will be mailed to teachers by early May. Any questions regarding awards can be directed to Melissa Shandroff at shandroffm@hohschools.org.

Local awards will **require a thank you note** from the student to our sponsors. We are grateful to be able to provide numerous monetary awards, which would not be possible without the generous donations of our sponsors. Students will be asked to send their thank you note to shandroffm@hohschools.org by the end of March or early April. Each individual winner and each team should send one thank you note, which must be sent in the body of an email. Please use the following format for the subject of your email:

Award name _ your name _ school name

Example: Teatown Young Naturalist _ John Doe _ Ossining

Students who do not send a thank you note will **not** receive their monetary awards. Teachers will be notified a week prior to the due date with names of students who have not sent in their thank you notes. **Award money checks must be deposited by June 30th or will be considered null and void.**

WESEF Executive Board



Many special thanks are due to the members of the WESEF Executive Board, a panel of nine teacher volunteers who work tirelessly throughout the school year to pull this epic event together to support student interest and involvement in the sciences in our region.

President:

Michael Blueglass
yorktownhusker@gmail.com

Vice President & SRC Co-Chair:

Angelo Piccirillo
apiccirillo@ossiningufsd.org

Vice President & Site Coordinator:

Janet Longo Abinanti
jrlongo@aol.com

Judge Coordinator:

Michele Sugantino
wesefjudges1@gmail.com

Assistant to the President:

Steve Beltecas
sbeltecas@pelhamschools.org

Treasurer:

Stephanie Peborde Burke
speborde2453@bcisdny.org

SRC Co-Chair:

Jodi Riordan
jriordan@klschools.org

Webmaster & Social Media:

Valerie Holmes
vholmes@ossiningufsd.org

Awards Coordinator:

Melissa Shandroff
shandroffm@hohschools.org

Finally, we wish to express our appreciation to the many student and teacher volunteers without whom our science fair would not be possible!

Frequently Asked Questions

Why does the research plan have to be in the future tense?

The research plan indicates all the aspects of the research to be conducted and determines the necessary documentation that the student will need to conduct the research. It is critical that it establishes what the student's actual role in the research and other individuals that will contribute to the research.

What is the difference between the fair (WESEF) SRC and an institution's SRC?

The WESEF SRC uses the guidelines established by the ISEF SRC to determine if the project qualifies for WESEF. Meanwhile, an institution's SRC typically refers to the "body" that oversees projects conducted at that particular research institution. Procedures approved by institution SRC can still conflict with ISEF SRC rules—for example those involving pain tolerance or the death of animals. Thus, it is very important to make mentors aware of ISEF/WESEF rules and regulations when planning research.

Can WESEF SRC approve a project before it starts? After it ends?

The WESEF SRC can approve a project with proper documentation in place before project begins as long as procedures are not modified during the time research is carried out. All projects must be approved by WESEF SRC after it is conducted and this must occur prior to WESEF presentation.

Can WESEF SRC disqualify a project that has been approved by an institution's SRC?

Yes, since it is possible that a project that can be approved by an institution with rules differing from those made by ISEF which is focused on high school researchers and thus has stricter rules.

Can any school form their own IRB/SRC committee?

Yes, as long as they follow the rules and regulations provided by ISEF.

Can a student who submitted to STS fail to qualify for WESEF?

Yes, STS does not have a scientific review committee (SRC) that reviews each project. Furthermore, there are notable differences in the qualifications of each competition.

When should a project be classified as a continuation project?

A continuation project is one in which the project goes beyond one calendar year.

Does ISEF limit the time or length of a project?

Yes, all projects must be within a calendar year which runs from January 2018 to May 2019.

If I finish 1st in my category, does that mean that I won a trip to ISEF?

No, only the top 12 scoring individual projects and up to 3 teams qualify for ISEF.

Once I have registered, can I change categories?

Yes, you will have one more chance to change your category prior to the fair.

If I decide to drop-out of WESEF, can my fee be refunded?

Unfortunately entry fees are not refundable under any circumstances.

Are WESEF Rules the same as ISEF Rules?

WESEF rules are guided by ISEF rules, however they can differ based on our local needs. For instance, abstracts at WESEF cannot be displayed to avoid potential judge bias, which is not a concern at the international level.

Donors

<p>Title Sponsor</p> <p>(Contribution of \$50,000 or more)</p>			
<p>Diamond Level</p> <p>(Contributions of \$10,000 to \$49,999)</p>		<p>Boehringer Ingelheim Cares Foundation</p>	
<p>Platinum Level</p> <p>(Contributions of \$5,000 to \$9,999)</p>			
<p>Gold Level</p> <p>(Contributions of \$2,000 to \$4,999)</p>			
<p>Silver Level</p> <p>(Contributions of \$500 to \$1,999)</p>			<p><i>Robert Weireter</i></p> 
<p>Patron Level</p> <p>(Contributions of \$200 to \$499)</p>			
<p>Friends Level</p> <p>(Contributions up to \$199)</p>			

Checklist for Adult Sponsor (1)

This completed form is required for ALL projects.

To be completed by the Adult Sponsor in collaboration with the student researcher(s):

Student's Name(s): _____

Project Title: _____

1. I have reviewed the ISEF Rules and Guidelines.
2. I have reviewed the completed Student Checklist (1A) and Research Plan/Project Summary.
3. I have worked with the student and discussed the possible risks involved in the project.
4. The project involves one or more of the following and requires prior approval by an SRC, IRB, IACUC or IBC:

<input type="checkbox"/> Humans	<input type="checkbox"/> Potentially Hazardous Biological Agents
<input type="checkbox"/> Vertebrate Animals	<input type="checkbox"/> Microorganisms <input type="checkbox"/> rDNA <input type="checkbox"/> Tissues
5. Items to be completed for **ALL PROJECTS**

<input type="checkbox"/> Adult Sponsor Checklist (1)	<input type="checkbox"/> Research Plan/Project Summary
<input type="checkbox"/> Student Checklist (1A)	<input type="checkbox"/> Approval Form (1B)
<input type="checkbox"/> Regulated Research Institutional/Industrial Setting Form (1C) (when applicable; after completed experiment)	
<input type="checkbox"/> Continuation/Research Progression Form (7) (when applicable)	

Fit as much of the title as possible

Additional forms required if the project includes the use of one or more of the following (check all that apply):

- Humans**, including student designed inventions/prototypes. (Requires prior approval by an Institutional Review Board (IRB); see full text of the rules.)
 - Human Participants Form (4) or appropriate Institutional IRB documentation
 - Sample of Informed Consent Form (when applicable and/or required by the IRB)
 - Qualified Scientist Form (2) (when applicable and/or required by the IRB)
- Vertebrate Animals** (Requires prior approval, see full text of the rules.)
 - Vertebrate Animal Form (5A)- for projects conducted in a school/home/field research site (SRC prior approval required.)
 - Vertebrate Animal Form (5B)- for projects conducted at a Regulated Research Institution. (Institutional Animal Care and Use Committee (IACUC) approval required prior experimentation.)
 - Qualified Scientist Form (2) (Required for all vertebrate animal projects at a regulated research site or when applicable)
- Potentially Hazardous Biological Agents** (Requires prior approval by SRC, IACUC or Institutional Biosafety Committee (IBC), see full text of the rules.)
 - Potentially Hazardous Biological Agents Risk Assessment Form (6A)
 - Human and Vertebrate Animal Tissue Form (6B)- to be completed in addition to Form 6A when project involves the use of fresh or frozen tissue, primary cell cultures, blood, blood products and body fluids.
 - Qualified Scientist Form (2) (when applicable)
 - The following are exempt from prior review but require a Risk Assessment Form 3: projects involving protists, archaea and similar microorganisms, for projects using manure for composting, fuel production or other non-culturing experiments, projects using color change coliform water testing, microbial fuel cells, and projects involving decomposing organisms.
- Hazardous Chemicals, Activities** (Requires prior approval by SRC, see full text of the rules.)
 - Risk Assessment Form (3) (Required for projects involving potentially hazardous biological agents.)
 - Qualified Scientist Form (2) (Required for projects involving DEA-controlled substances or weapons.)

This is usually the Sci. Res. teacher NOT the mentor

This must be dated BEFORE the "Actual Start Date" on form 1A

Adult Sponsor's Printed Name _____ Signature _____ Date of Review _____

Phone _____ Email _____

Student Checklist (1A)

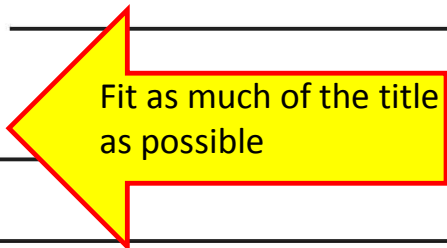
This form is required for ALL projects.

1. a. Student/Team Leader: _____ Grade: _____

Email: _____ Phone: _____

b. Team Member: _____ c. Team Member: _____

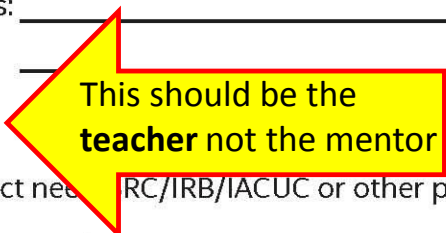
2. Title of Project: _____



3. School: _____ School Phone: _____

School Address: _____

4. Adult Sponsor: _____ Phone/Email: _____

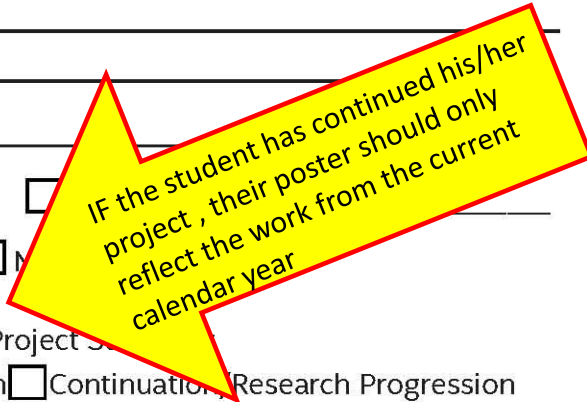


5. Does this project need IRB/IRB/IACUC or other pre-approval? Yes No

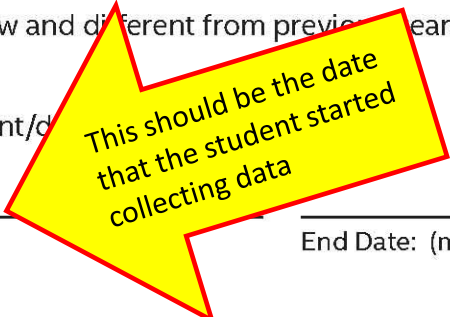
6. Is this a continuation/progression from a previous year? Yes No
 If Yes:

a. Attach the previous year's Abstract **and** Research Plan/Project Summary

b. Explain how this project is new and different from previous years on Continuation/Research Progression Form (7)



7. This year's laboratory experiment/demonstration: _____



Actual Start Date: (mm/dd/yy) _____

End Date: (mm/dd/yy) _____

8. Where will you conduct your experimentation? (check all that apply)
 Research Institution School Field Home Other: _____

9. List name and address of all non-home and non-school work site(s):

Name: _____

Address: _____

Phone/ email _____

10. **Complete a Research Plan/Project Summary following the Research Plan/Project Summary instructions and attach to this form.**

11. **An abstract is required for all projects after experimentation.**

Research Plan/Project Summary Instructions

A complete Research Plan/Project Summary is required for ALL projects and must accompany Student Checklist (1A).

1. All projects must have a Research Plan/Project Summary
 - a. Written prior to experimentation following the instructions below to detail the rationale, research question(s), methodology, and risk assessment of the proposed research.
 - b. If changes are made during the research, such changes can be added to the original research plan as an addendum, recognizing that some changes may require returning to the IRB or SRC for appropriate review and approvals. If no additional approvals are required, this addendum serves as a project summary to explain research that was conducted.
 - c. If no changes are made from the original research plan, no project summary is required.
2. Some studies, such as an engineering design or mathematics projects, will be less detailed in the initial project plan and will change through the course of research. If such changes occur, a project summary that explains what was done is required and can be appended to the original research plan.
3. The Research Plan/Project Summary should include the following:
 - a. **RATIONALE:** Include a brief synopsis of the background that supports your research problem and explain why this research is important and if applicable, explain any societal impact of your research.
 - b. **RESEARCH QUESTION(S), HYPOTHESIS(ES), ENGINEERING GOAL(S), EXPECTED OUTCOMES:** How is this based on the rationale described above?
 - c. Describe the following in detail:
 - **Procedures:** Detail all procedures and experimental design including methods for data collection. Describe only your project. Do not include work done by mentor or others.
 - **Risk and Safety:** Identify any potential risks and safety precautions needed.
 - **Data Analysis:** Describe the procedures you will use to analyze the data/results.
 - d. **BIBLIOGRAPHY:** List major references (e.g. science journal articles, books, internet sources). If you use vertebrate animals, one of these references must be an animal care reference.

Items 1–4 below are subject-specific guidelines for additional items to be included in your summary when applicable.

1. **Human participants research:**
 - a. **Participants:** Describe age range, gender, racial/ethnic composition of participants (including pregnant women, prisoners, mentally disabled or economically disadvantaged).
 - b. **Recruitment:** Where will you find your participants? How will they be invited to participate?
 - c. **Methods:** What will participants be asked to do? Will you use any surveys, questionnaires, or interviews? What is the length of time involved for each subject?
 - d. **Risk Assessment:** What are the risks or potential discomforts (physical, psychological, or social) to participants? How will you minimize risks? List any benefits to society or participants.
 - e. **Protection of Privacy:** Will identifiable information (e.g., names, telephone numbers, addresses) be collected? Will data be confidential/anonymous? If anonymous, describe how the data will be protected. Are measures in place for safeguarding confidentiality? Where will data be stored? Who will have access to the data after the study?
 - f. **Informed Consent Process:** Describe how you will inform participants about the risks and benefits of the study, that their participation is voluntary and they have the right to stop at any time.
2. **Vertebrate animal research:**
 - a. Discuss potential ALTERNATIVES to vertebrate animal use and present justification for the use of animals.
 - b. Explain potential impact or contribution of this research.
 - c. Detail all procedures to be used, including methods used to minimize potential discomforts to animals and detailed chemical concentrations and drug dosages.
 - d. Detail animal numbers, species, strain, sex, age, source, etc., include justification for the use of animals.
 - e. Describe housing and oversight of daily care.
 - f. Discuss disposition of the animals at the termination of the study.
3. **Potentially hazardous biological agents research:**
 - a. Give source of the organism and describe BSL assessment process and BSL detection methods.
 - b. Detail safety precautions and discuss methods of disposal.
4. **Hazardous chemicals, activities & devices:**
 - Describe Risk Assessment process, supervision, safety precautions and methods of disposal.

This is the most important form!
It is what the other forms are based on so be VERY accurate!

Must be VERY detailed and clearly delineate the role of the student vs. the role of the mentor

Entire Research Plan must be in FUTURE tense!!

Must include proposed and actual start and end dates

Must include detailed research plan

Must have all work site information completed

Must identify student and mentor role

Approval Form (1B)

A completed form is required for each student, including all team members.

1. To Be Completed by Student and Parent

a. Student Acknowledgment:

- I understand the risks and possible dangers to me of the proposed research plan.
- I have read the Intel ISEF Rules and Guidelines and will adhere to all International Rules when conducting this research.
- I have read and will abide by the following Ethics statement

Scientific fraud and misconduct are not condoned at any level of research or competition, but are not limited to plagiarism, forgery, use or presentation of other researcher's work, fabrication of data. Fraudulent projects will fail to qualify for competition in affiliated fairs.

This must be dated BEFORE the "Actual Start Date" on form 1A and Intel ISEF.

This must be dated BEFORE the "Actual Start Date" on form 1A

Student's Printed Name	Signature	Date Acknowledged (Must be prior to experimentation.)
<p>b. Parent/Guardian Approval: I have read and understand the risks and possible dangers of my child's research Plan/Project Summary. I consent to my child participating in this research.</p>		
Parent/Guardian's Printed Name	Signature	Date Acknowledged (mm/dd/yy) (Must be prior to experimentation.)

2. To be completed by the local or affiliated Fair SRC

(Required for projects requiring prior SRC/IRB APPROVAL. Sign 2a or 2b as appropriate.)

a. Required for projects that need prior SRC/IRB approval BEFORE experimentation (humans, vertebrates or potentially hazardous materials).

The SRC/IRB Chair's signature on the Plan/Project Summary indicates that the project complies with the SRC/IRB approval process. My signature indicates that I have read and understand the risks and possible dangers of my child's research Plan/Project Summary before the start of experimentation.

SRC/IRB Chair's Printed Name

Signature

Date of Approval (mm/dd/yy)
(Must be prior to experimentation.)

b. Required for research conducted at all Regulated Research Institutions with no prior fair SRC/IRB approval.

OR

This project was conducted at a regulated research institution (not home school) which was approved by the appropriate regulatory agency and complies with the SRC/IRB approval process and any required institutional approval.

SRC Chair's Printed Name

Signature

Date of Approval (mm/dd/yy)

Do NOT write anything in this space

Do NOT write anything in this space

3. Final Intel ISEF Affiliated Fair SRC Approval (Required for ALL Projects)

SRC Approval After Experimentation and Presentation at International Fair

I certify that this project adheres to the Intel ISEF Rules and complies with all Intel ISEF Rules.

Regional SRC Chair's Printed Name

Date of Approval

State/National SRC Chair's Printed Name (where applicable)

Date of Approval

Do NOT write anything in this space

Regulated Research Institutional/Industrial Setting Form (1C)

This form must be completed AFTER experimentation by the adult supervising the student research conducted in a regulated research institution, industrial setting or any work site other than home, school or field.

Student's Name(s) _____

Title of Project _____

To be completed by the Supervising Adult in the Setting (NOT the Student(s)) after experimentation:

(Responses must remain on the form as it is required to be displayed at student's project booth.)

The student(s) conducted research at my work site:

1. Did you or your proxy (e.g. graduate student, postdoc, employee) mentor or provide substantial guidance to the student researcher? Yes No
 - a. If no, describe your and/or your institution's role with the student researcher and his/her project (e.g. supervised use of equipment on site without ongoing mentorship and sign below.
 - b. If yes, complete questions 2–5.
2. Is the student's research project a subset of your ongoing research or work? Yes No
Use questions 3, 4 and 5 to detail how the student's project was similar and/or different from ongoing research or work at your site.
3. Describe the independence and creativity with which the student:
 - a. developed the hypotheses or engineering goals for her/her research project
 - b. designed the methodology for his/her research project
 - c. analyzed and interpreted data
4. Detail the student's role in conducting the research (e.g. data collection, specific procedures performed). Differentiate what the student observed and what the student actually did.
5. Did the student(s) work on the project as part of a group? Yes No
If yes, how many individuals were in the group and who were they (e.g. high school students, graduate students, faculty, professional researchers)?

The new version of this is a two page form but the questions are the same

I attest that the student has conducted the research as indicated above and that any required review and approval by institutional regulatory boards has been obtained. Copies are attached if applicable. I further acknowledge that I am presenting the student's work in competition and I have communicated with the student researcher regarding requirements for my institution if the work is publicized.

Supervising Adult's Print Name _____ Signature _____

Institution _____ Date Signed (must be after experimentation) _____

Address _____ Email/Phone _____

This should be the Mentor NOT the teacher

This must be dated AFTER the "End Date" on form 1A

Qualified Scientist Form (2)

May be required for research involving human participants, vertebrate animals, potentially hazardous biological agents, and DEA-controlled substances. Must be completed and signed before the start of student experimentation.

Student's Name(s) _____

Title of Project _____

To be completed by the Qualified Scientist:

Scientist Name: _____

Educational Background: _____ Degree(s): _____

Experience/Training as relates to the student's area of research: _____

Position: _____

Institution: _____

Address: _____

Email/Phone: _____

- 1) Have you reviewed the Intel ISEF rules relevant to this project? Yes No

2. Will any of the following be used?
 - a. Human participants Yes No
 - b. Vertebrate animals Yes No
 - c. Potentially hazardous biological agents (microorganisms, rDNA and tissues, including blood and blood products) Yes No
 - d. DEA-controlled substances Yes No

3. Was this study a sub-set of a larger study? Yes No

4. Will you directly supervise the student? Yes No
 - a. If no, who will directly supervise and serve as the Designated Supervisor? _____
 - b. Experience/Training of the Designated Supervisor: _____

To be completed by the Qualified Scientist:

I certify that I have reviewed and approved the Research Plan/Project Summary prior to the start of the experimentation. If the student or Designated Supervisor is not trained in the necessary procedures, I will ensure her/his training. I will provide advice and supervision during the research. I have a working knowledge of the techniques to be used by the student in the Research Plan/Project Summary. I understand that a Designated Supervisor is required when the student is not conducting experiments under my direct supervision.

Qualified Scientist's Printed Name

Signature Date of Approval

To be completed by the Designated Supervisor when the Qualified Scientist cannot directly supervise.

I certify that I have reviewed and approved the Research Plan/Project Summary and have been trained in the necessary procedures to be used by this student, and I will provide supervision during the research.

Designated Supervisor's Printed Name

Signature Date of Approval

Phone Email

This must be dated BEFORE the "Actual Start Date" on form 1A

If needed, this must be dated BEFORE the "Actual Start Date" on form 1A

Risk Assessment Form (3)

Required for projects using hazardous chemicals, activities or devices, and microorganisms which are exempt from pre-approval. Must be completed before experimentation.

Student's Name(s) _____

Title of Project _____

To be completed by the Student Researcher(s) in collaboration with Designated Supervisor/Qualified Scientist: (All questions must be answered; additional page(s) may be attached.)

1. List all hazardous chemicals, activities, or devices that will be used; identify microorganisms exempt from pre-approval (see Potentially Hazardous Biological Agent rules).
2. Identify and assess the risks involved in this project.
3. Describe the safety precautions and procedures that will be used to reduce the risks.
4. Describe the disposal procedures that will be used (when applicable).
5. List the source(s) of safety information.

To be completed and signed by the Designated Supervisor (or Qualified Scientist,

I agree with the risk assessment and safety precautions and procedures described above. I certify that I have read the Research Plan/Project Summary and will provide direct supervision.

Designated Supervisor's Printed Name

Signature

Date of Review (mm/dd/yy)

Position & Institution

Phone or email contact information

Experience/Training as relates to the student's area of research

This must be dated **BEFORE** the "Actual Start Date" on form 1A

Human Participants Form (4)

Required for all research involving human participants not at a Regulated Research Institution. If at a Regulated Research Institution, use institutional approval forms for documentation of prior review and approval. (IRB approval required before recruitment or data collection.)

Student's Name(s)	Title of Project
Adult Sponsor	Phone/Email

Must be completed by Student Researcher(s) in collaboration with the Adult Sponsor/Designated Supervisor/Qualified Scientist:

1. I have submitted my Research Plan/Project Summary which addresses ALL areas indicated in the Human Participants Section of the Research Plan/Project Summary Instructions.
2. I have attached any surveys or questionnaires I will be using in my project or other documents. Any published instrument(s) used was/were legally obtained.
3. I have attached an informed consent that I would use if required by the IRB.
4. Yes No Are you working with a Qualified Scientist? If yes, attach the Qualified Scientist's signature.

Even though your school IRB may have given approval, the study must conform to all ISEF regulations

BELOW - IRB USE ONLY

Must be completed by Institutional Review Board (IRB) after review of the research plan. All questions must be answered for the approval to be valid. (If not approved, return paperwork to the student with instructions for modifications.)

Approved with Full Committee Review (3 signatures required) and the following conditions: **(All 6 must be answered)**

1. Risk Level (check one): Minimal Risk More than Minimal Risk
2. Qualified Scientist (QS) Required (Form 2): Yes No
3. Designated Supervisor (DS) Required (Form 3): Yes No
4. Written Minor Assent required for minor participants: Yes No Not applicable (No minors in this study)
5. Written Parental Permission required for minor participants: Yes No Not applicable (No minors in this study)
6. Written Informed Consent required for participants 18 years or older: Yes No Not applicable (No participants 18 yrs or older in this study)

Notice that there is no more "expedited review" in this section

IRB SIGNATURES (All 3 signatures required) None of these individuals may be the adult sponsor, designated supervisor, qualified scientist or related to (e.g., mother, father of) the student (conflict of interest).

I attest that I have reviewed the student's project, that the checkboxes above have been completed to indicate the IRB determination and that I agree with the decisions above.

Medical or Mental Health Professional (a psychologist, medical doctor, licensed social worker, licensed clinical professional counselor, physician assistant, doctor of pharmacy, or registered nurse) with expertise related to this project.

Printed Name	Degree/Professional License
Signature	Date of Approval (Must be prior to experimentation.) (mm/dd/yy)
Educator	
Printed Name	Degree
Signature	Date of Approval (Must be prior to experimentation.) (mm/dd/yy)
School Administrator	
Printed Name	Degree/Professional License
Signature	Date of Approval (Must be prior to experimentation.) (mm/dd/yy)

This CANNOT be the same teacher that signed as the "Adult Sponsor"

This must be dated BEFORE the "Actual Start Date" on form 1A

This must be dated BEFORE the "Actual Start Date" on form 1A

This must be dated BEFORE the "Actual Start Date" on form 1A

Human Informed Consent Form

Instructions to the Student Researcher(s): An informed consent/assent/permission form should be developed in consultation with the Adult Sponsor, Designated Supervisor or Qualified Scientist. This form is used to provide information to the research participant (or parent/guardian) and obtain written informed consent, minor assent, and/or parental permission.

- When written documentation is required, the researcher keeps the original form.
- Students may use this sample form or may copy ALL elements of it into a new document.

If the form is serving to document parental permission, a copy of any survey or questionnaire must be attached to the form.

Student Researcher(s): _____

Title of Project: _____

I am asking for your voluntary participation in my science fair project. Please read the following information about the project. If you would like to participate, please sign in the appropriate area below.

Purpose of the project:

If you participate, you will be asked to:

Time required for participation:

Potential Risks of Study:

Benefits:

How confidentiality will be maintained:

If you have any questions about this study, feel free to contact:

Adult Sponsor/QS/DS: _____ Phone/email: _____

Voluntary Participation:

Participation in this study is completely voluntary. If you decide not to participate there will not be any negative consequences. Please be aware that if you decide to participate, you may stop participating at any time and you may decide not to answer any specific question.

By signing this form I am attesting that I have read and understand the information above and I freely give my consent/assent to participate or permission for my child to participate.

Adult Informed Consent or Minor Assent

Date Reviewed & Signed: _____

Research Participant Printed Name: _____

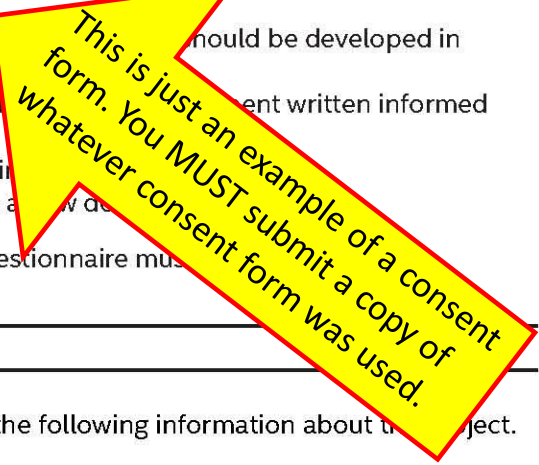
Signature: _____

Parental/Guardian Permission (if applicable)

Date Reviewed & Signed: _____

Parent/Guardian Printed Name: _____

Signature: _____



Vertebrate Animal Form (5A)

Required for all research involving vertebrate animals that is conducted in a school/home/field research site.
(SRC approval required before experimentation.)

Student's Name(s) _____

Title of Project _____

To be completed by Student Researcher:

1. Common name (or Genus, species) and number of animals used.
2. Describe completely the housing and husbandry to be provided. Include the cage/pen size, number of animals per cage, environment, bedding, type of food, frequency of food and water, how often animal is observed, etc. Add an additional page as necessary.
3. What will happen to the animals after experimentation?
4. Attach a copy of wildlife licenses or approval forms, as applicable
5. The Intel ISEF Vertebrate Animal Rules require that any death, illness or unexpected weight loss be investigated and documented by a letter from the qualified scientist, designated supervisor or a veterinarian. If applicable, attach this letter with this form when submitting your paperwork to the SRC prior to competition.

To be completed by Local or Affiliate Fair Scientific Review Committee (SRC) BEFORE experimentation.

Level of Supervision Required for agricultural, behavioral or nutritional studies:

- Designated Supervisor REQUIRED. Please have applicable person sign below.
- Veterinarian and Designated Supervisor REQUIRED. Please have applicable persons sign below.
- Veterinarian, Designated Supervisor and Qualified Scientist REQUIRED. Please have applicable persons sign below and have the Qualified Scientist complete Form (2).

The SRC has carefully reviewed this study and finds it is an appropriate study that may be conducted in a non-regulated research site.

Local or Affiliate Fair SRC Pre-Approval Signature:

SRC Chair Printed Name

Signature

Date of Approval (must be prior to experimentation) (mm/dd/yy)

To be completed by Veterinarian:

- I have reviewed this research and animal husbandry with the student before the start of experimentation.
- I have approved the use and dosages of drugs and/or nutritional supplements.
- I will provide veterinary medical and nursing care in case of illness or emergency.

Printed Name

Email/Phone

Signature

Date of Approval

To be completed by Designated Supervisor or Qualified Scientist when applicable:

- I have reviewed this research and animal husbandry with the student before the start of experimentation and accept primary responsibility for the care and well-being of the animals in this project.
- I will directly supervise the experiment.

Printed Name

Email/Phone

Signature

Date of Approval

This must be dated BEFORE the "Actual Start Date" on form 1A

This must be dated BEFORE the "Actual Start Date" on form 1A

Vertebrate Animal Form (5B)

Required for all research involving vertebrate animals that is conducted in at a Regulated Research Institution. (IACUC approval required before experimentation. Form must be completed and signed after experimentation.)

Student's Name(s) _____

Title of Project _____

Title and Protocol Number of IACUC Approved Project _____

You MUST include a copy of the actual IACUC form with the protocol number

To be completed by Qualified Scientist or Principal Investigator:

1. Species of animals used: _____ Number of animals used: _____

2. Describe, in detail, the role of the student in this project: animal procedures and related equipment that were involved, oversight provided and safety precautions employed. (Attach extra pages if necessary.)

3. Was there any weight loss or death of any animal? If yes, attach a letter obtained from the qualified scientist, designated supervisor or a veterinarian documenting the situation and the results of the investigation.

4. Did the student's project also involve the use of tissues?

No

Yes; complete Forms 6A and 6B

5. What laboratory training, including dates, was provided to the student?

6. Attach a copy of the Regulated Research Institution IACUC Approval. A letter from the Qualified Scientist or Principal Investigator is not sufficient.

This must be dated AFTER the "End Date" on form 1A

Qualified Scientist/Principal Investigator

Printed Name

Signature

Date

Potentially Hazardous Biological Agents Risk Assessment Form (6A)

Required for research involving microorganisms, rDNA, fresh/frozen tissue (including primary cell lines, human and other primate established cell lines and tissue cultures), blood, blood products and body fluids.
SRC/IACUC/IBC approval required before experimentation.

Student's Name(s) _____

Title of Project _____

To be completed by the QUALIFIED SCIENTIST/DESIGNATED SUPERVISOR in collaboration with the student researcher(s). All questions are applicable and must be answered; additional page(s) may be attached.

SECTION 1: PROJECT ASSESSMENT

1. Identify potentially hazardous biological agents to be used in this experiment. Include the source, quantity and the biosafety level risk group of each microorganism.
2. Describe the site of experimentation including the level of biological containment.
3. Describe the procedures that will be used to minimize risk (personal protective equipment, hood type, etc.).
4. What final biosafety level do you recommend for this project given the risk assessment you conducted?
5. Describe the method of disposal of all cultured materials and other potentially hazardous biological agents.

SECTION 2: TRAINING

1. What training will the student receive for this project?
2. Experience/training of Designated Supervisor as it relates to the student's area of research (if applicable).

SECTION 3: For ALL CELL LINES and MICROORGANISMS – To be completed by the QUALIFIED SCIENTIST or DESIGNATED SUPERVISOR - Check the appropriate box(es) below:

- Experimentation on the cell line/microorganism used in this study was NOT conducted at a Regulated Research Institution, but was conducted at a (check one) BSL-1 or BSL-2 laboratory. This study has been reviewed by the local SRC and the procedures have been approved prior to experimentation.
- Experimentation on the cell line/microorganism used in this study was conducted at a Regulated Research Institution and was approved by the appropriate institutional board prior to experimentation; institutional approval forms are attached.
Origin of cell lines: _____ Date of IACUC/IBC approval (mm/dd/yy) _____
- Experimentation on the cell line/microorganism used in this study was conducted at a Regulated Research Institution, which does not require pre-approval for this type of study. The SRC has reviewed that the _____ and appropriate training and the project complies with Intel ISEF rules.

CERTIFICATION – To be SIGNED by the QUALIFIED SCIENTIST or DESIGNATED SUPERVISOR

The QS/DS has seen this project's research plan and supporting documentation and acknowledges the accuracy of the information provided above. This study has been approved as a BSL-1 or BSL-2 study, and will be conducted in an appropriate laboratory.

QS/DS Printed Name

Signature

Date of review (MM/DD/YYYY)

This must be dated BEFORE the "Actual Start Date" on form 1A

SECTION 4: CERTIFICATION – To be completed by the LOCAL or AFFILIATED FAIR USE SRC

The SRC has seen this project's research plan and supporting documentation and acknowledges the accuracy of the information provided above.

SRC Printed Name

Signature

Date of review (MM/DD/YYYY)

Do NOT write anything in this space

Human and Vertebrate Animal Tissue Form (6B)

Required for research involving fresh/frozen tissue (including primary cell lines, human and other primate established cell lines and tissue cultures), blood, blood products and body fluids. If the research involves living organisms please ensure that the proper human or animal forms are completed. **All projects using any tissue listed above must also complete Form 6A.**

Student's Name(s) _____

Title of Project _____

To be completed by Student Researcher(s):

1. What vertebrate animal tissue will be used in this study? Check all that apply.
 - Fresh or frozen tissue sample
 - Fresh organ or other body part
 - Blood
 - Body fluids
 - Primary cell/tissue cultures
 - Human or other primate established cell lines
2. Where will the above tissue(s) be obtained. If using an established cell line include source and catalog number.
3. If the tissue will be obtained from a vertebrate animal study conducted at a research institution attach a copy of the IACUC certification with the name of the research institution, the title of the study, the IACUC approval number and date of IACUC approval.

To be completed by the Qualified Scientist or Designated Supervisor:

- I verify that the student will work solely with organs, tissues, cultures or cells that will be supplied to him/her by qualified personnel from the laboratory; and that if vertebrate animals were euthanized they were euthanized according to standards other than the student's research.
- AND/OR**
- I certify that the blood, blood products, tissues or body fluids in this project will be handled in accordance with the standards and guidance set forth in U.S. Occupational Safety and Health Act, 29CFR, Subpart Z, 1910.1030, and other applicable standards and guidance.

This must be dated BEFORE the "Actual Start Date" on form 1A

Printed Name _____

Signature _____

Date of Approval
(Must be prior to experimentation.) _____

Title _____

Phone/Email _____

Institution _____

Continuation/Research Progression Projects Form (7)

Required for projects that are a continuation/progression in the same field of study as a previous project.

This form must be accompanied by the previous year's abstract and Research Plan/Project Summary.

Student's Name(s) _____

To be completed by Student Researcher: List all components of the current project that make it new and different from previous research. The information must be on the form; use an additional form for 2016–2017 and earlier projects.

Components	Current Research Project (2018-2019)	Previous Research Year: _____
1. Title		
2. Change in goal/ purpose/objective		
3. Changes in methodology		
4. Variable studied		
5. Additional changes		

If the project has been carried out for more than the past two years

This form has been restructured for 2019. Continuation projects **MUST** include this form and the previous year(s) Abstract and Research Plan.

Attached are:

- 2017–2018 Abstract and Research Plan/Project Summary

I hereby certify that the above information is correct and that the current year Abstract & Certification and project display board properly reflect work done only in the current year.

_____ Signature _____ Date of Signature (mm/dd/yy)

Student's Printed Name(s)

JUDGE #

WESEF TEAM Rubric

Poster ID#

Please use your best judgment; the following is a set of criteria that can assist you in interviewing the presenters and aid in your evaluation of the students' projects. Please circle a number; you must choose a whole number.

Guidelines	Notes
<p>I. Introduction & Background</p> <ul style="list-style-type: none"> Provides an intro that begins with general info leading up to the area of research, students understand how their research builds upon previous work 	<p style="text-align: center;">Lowest Highest</p> <p style="text-align: center;">1 2 3 4 5 6 7 8 9 10</p>
<p>II. Problem Statement / Goals / Hypothesis</p> <ul style="list-style-type: none"> Students clearly explained the goals or purpose of the research Explains how the goal addresses a problem (gap in previous research) 	<p style="text-align: center;">1 2 3 4 5 6 7 8 9 10</p>
<p>III. Methods / Materials</p> <ul style="list-style-type: none"> Students clearly identify their roles & the mentor's role in the project Uses an efficient and reliable method for scientific work A clear plan was shown and variables were identified <i>If controls were necessary</i>, appropriate controls were correctly used Sample size was appropriate for the type of study conducted If a survey was used, the questions adequately addressed the problem 	<p style="text-align: center;">1 2 3 4 5 6 7 8 9 10</p>
<p>IV. Results / Analysis</p> <ul style="list-style-type: none"> Students clearly and adequately explained the results of their work Adequate data was presented to support the conclusion. <i>If applicable</i>, statistical analysis was used properly (projects involving questionnaires require statistical analysis) Students were able to explain method of analysis used including statistical analysis 	<p style="text-align: center;">Lowest Highest</p> <p style="text-align: center;">1 2 3 4 5 6 7 8 9 10 11 12 13 14 15</p>

----- Rubric continues onto the back -----

-- Please return ALL rubrics, NO RUBRICS SHOULD BE DISCARDED --

WESEF TEAM Rubric

<p>V. Discussion / Application</p> <ul style="list-style-type: none"> ▪ Students understand the relationship between their results with respect to their original goals ▪ Students interpreted the data in a way that is consistent with the original hypothesis/ problem statement ▪ The research supported a creative approach to addressing a scientific question or problem ▪ The students provided possible applications of his/her work 	<p>Lowest Highest</p> <p>1 2 3 4 5 6 7 8 9 10</p>
<p>VI. Conclusion / Future Research</p> <ul style="list-style-type: none"> ▪ Sound conclusions were made based on the data/schematics presented ▪ Project was carried out to completion within the scope of the original intent ▪ Demonstrated a clear direction for further study in the area of research 	<p>1 2 3 4 5 6 7 8 9 10</p>
<p>VII. Quality of Presentation/ Teamwork</p> <ul style="list-style-type: none"> ▪ Students presented the material in a clear and organized manner ▪ Students demonstrated enthusiasm in the presentation of his/her research. ▪ Project demonstrates a cooperative effort by members to achieve a common goal ▪ Project completion relies on all members contributing data that supports the study 	<p>1 2 3 4 5 6 7 8 9 10</p>
<p>VIII. Students Understanding</p> <ul style="list-style-type: none"> ▪ All students on the team demonstrated understanding of the project by answering specific questions ▪ Students clearly explain all aspects of the project 	<p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15</p>
<p>IX. Physical Poster Organization</p> <ul style="list-style-type: none"> ▪ The poster demonstrated an organized scientific approach ▪ Poster clearly presented the specific goals or specific purpose of research study ▪ Poster clearly showed the data that was presented in identifiable tables and or figures ▪ Text was clearly visible with readable formatting ▪ Information was creatively organized in a way that enhanced the presentation of student's research 	<p>Lowest Highest</p> <p>1 2 3 4 5 6 7 8 9 10</p>

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JUDGE #

WESEF Main Rubric

Poster ID#

Please use your best judgment; the following is a set of criteria that can assist you in interviewing the presenters and aid in your evaluation of the students' projects.
Please circle a number; you must choose a whole number.

Guidelines	Notes
<p>I. Introduction & Background</p> <ul style="list-style-type: none"> Provides an intro that begins with general info leading up to the area of research, student understands how their research builds upon previous work 	<p style="text-align: center;">Lowest Highest</p> <p style="text-align: center;">1 2 3 4 5 6 7 8 9 10</p>
<p>II. Problem Statement / Goals / Hypothesis</p> <ul style="list-style-type: none"> Student clearly explained the goals or purpose of the research Explains how the goal addresses a problem (gap in previous research) 	<p style="text-align: center;">1 2 3 4 5 6 7 8 9 10</p>
<p>III. Methods/ Materials</p> <ul style="list-style-type: none"> Student clearly identifies their role & the mentor's role in the project Uses an efficient and reliable method for scientific work A clear plan was shown and variables were identified <i>If controls were necessary</i>, appropriate controls were correctly used Sample size was appropriate for the type of study conducted If a survey was used, the questions adequately addressed the problem 	<p style="text-align: center;">1 2 3 4 5 6 7 8 9 10</p>
<p>IV. Results / Analysis</p> <ul style="list-style-type: none"> Student clearly and adequately explained the results of his/ her work Adequate data was presented to support the conclusion. <i>If applicable</i>, statistical analysis was used properly (projects involving questionnaires require statistical analysis) Student was able to explain method of analysis used including statistical analysis 	<p style="text-align: center;">Lowest Highest</p> <p style="text-align: center;">1 2 3 4 5 6 7 8 9 10 11 12 13 14 15</p>

----- Rubric continues onto the back -----

-- Please return ALL rubrics, NO RUBRICS SHOULD BE DISCARDED --

WESEF Main Rubric

<p>V. Discussion / Application</p> <ul style="list-style-type: none"> ▪ Student understands the relationship of his/her results with respect to his/her goals ▪ Student interpreted the data in a way that is consistent with the original hypothesis/ problem statement ▪ The research supported a creative approach to addressing a scientific question or problem ▪ The student provided possible applications of his/her work 	<p>Lowest 1 2 3 4 5 6 7 8 9 Highest 10</p>
<p>VI. Conclusion / Future Research</p> <ul style="list-style-type: none"> ▪ Sound conclusions were made based on the data/schematics presented ▪ Project was carried out to completion within the scope of the original intent ▪ Demonstrated a clear direction for further study in the area of research 	<p>1 2 3 4 5 6 7 8 9 10</p>
<p>VII. Quality of Presentation</p> <ul style="list-style-type: none"> ▪ Student presented the material in a clear and organized manner ▪ Student demonstrated enthusiasm in the presentation of his/her research. 	<p>1 2 3 4 5 6 7 8 9 10</p>
<p>VIII. Student Understanding</p> <ul style="list-style-type: none"> ▪ Student demonstrated understanding of the project by answering specific questions ▪ Student clearly explains all aspects of the project 	<p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15</p>
<p>IX. Physical Poster Organization</p> <ul style="list-style-type: none"> ▪ The poster demonstrated an organized scientific approach ▪ Poster clearly showed the data that was presented in identifiable tables and or figures ▪ Poster clearly presented the specific goals or specific purpose of research study ▪ Text was clearly visible with readable formatting ▪ Information was creatively organized in a way that enhanced the presentation of student's research 	<p>Lowest 1 2 3 4 5 6 7 8 9 Highest 10</p>

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JUDGE #

WESEF Engineering Rubric

Poster ID#

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Guidelines	Notes
<p>I. Introduction & Background</p> <ul style="list-style-type: none"> Provides an intro that begins with general info leading up to the area of research, student understands how their research builds upon previous work 	<p style="text-align: center;">Lowest Highest</p> <p style="text-align: center;">1 2 3 4 5 6 7 8 9 10</p>
<p>II. Problem Statement/Goals</p> <ul style="list-style-type: none"> Student clearly explained the goals or purpose of the research Explains how the goal addresses a problem (gap in previous research) 	<p style="text-align: center;">1 2 3 4 5 6 7 8 9 10</p>
<p>III. Methods/ Materials</p> <ul style="list-style-type: none"> Student clearly identifies their role & the mentor's role in the project Uses an efficient and reliable method for scientific work A clear plan was shown and variables were identified <i>If controls were necessary</i>, appropriate controls were correctly used Objective is relevant to the potential users' needs Solution can be utilized successfully in design or construction of an end product 	<p style="text-align: center;">1 2 3 4 5 6 7 8 9 10</p>
<p>IV. Results / Analysis</p> <ul style="list-style-type: none"> Student clearly and adequately explained the results of his/her work Solution is a significant improvement over previous alternatives Solution has been tested for performance under conditions of use Student was able to explain method of analysis used If statistical analysis was used, student was able to adequately explain the results 	<p style="text-align: center;">Lowest Highest</p> <p style="text-align: center;">1 2 3 4 5 6 7 8 9 10 11 12 13 14 15</p>

-- Please return ALL rubrics, NO RUBRICS SHOULD BE DISCARDED --

WESEF Engineering Rubric

----- Rubric continues onto the back -----

<p>V. Discussion/Application</p> <ul style="list-style-type: none"> ▪ Student understands the relationship of his/her results with respect to the goals identified ▪ Student interpreted the data in a way that is consistent with the original hypothesis/problem statement ▪ The research supported a creative approach to addressing a scientific question or problem ▪ The student provided possible applications of his/her work 	<p>Lowest Highest</p> <p>1 2 3 4 5 6 7 8 9 10</p>
<p>VI. Conclusion/ Future Research</p> <ul style="list-style-type: none"> ▪ Sound conclusions were made based on the data/schematics presented ▪ Project was carried out to completion within the scope of the original intent ▪ Demonstrated a clear direction for further study in the area of research 	<p>1 2 3 4 5 6 7 8 9 10</p>
<p>VII. Quality of Presentation</p> <ul style="list-style-type: none"> ▪ Student presented the material in a clear and organized manner ▪ The student demonstrated enthusiasm in the presentation of his/her research 	<p>1 2 3 4 5 6 7 8 9 10</p>
<p>VIII. Student Understanding</p> <ul style="list-style-type: none"> ▪ Student demonstrated understanding of the project by answering specific questions ▪ Student clearly explains all aspects of the project 	<p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15</p>
<p>IX. Physical Poster Organization</p> <ul style="list-style-type: none"> ▪ The poster demonstrated an organized scientific approach ▪ Poster clearly showed the data that was presented in identifiable tables and or figures ▪ Poster clearly presented the specific goals or specific purpose of research study ▪ Text was clearly visible with readable formatting ▪ Information was creatively organized in a way that enhanced the presentation of student's research 	<p>Lowest Highest</p> <p>1 2 3 4 5 6 7 8 9 10</p>

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