



Republic of the Philippines

Department of Education

REGION III

SCHOOLS DIVISION OFFICE OF ANGELES CITY

07 Oct 2024

DIVISION MEMORANDUM

No. 358, s. 2024

To: Division Superintendent
Chief Education Supervisors
Public Schools District Supervisors
Public and Private Secondary School Heads
All Others Concerned



2024 DIVISION SCIENCE AND TECHNOLOGY FAIR (DSTF)

1. Pursuant to Regional Memorandum No.683, s. 2024, this Office announces the conduct of the 2024 Division Science and Technology Fair with the theme **“Towards a Shared Vision: Exploring the Future for a Better Tomorrow”** on November 15, 2024, at STEM Center, Dr. Clemente N. Dayrit Elementary School Compound, Angeles City.
2. The activity aims to:
 - a. develop and strengthen the Science, Technology, Engineering, and Mathematics (STEM) skills of learners through the conduct of Science -In-Action activity and research projects that address local, national, and global issues, concerns, and problems;
 - b. promote STEM awareness and interest among learners, teachers, and the public; and
 - c. identify the best researcher who will represent the Division at the Regional Science and Technology Fair (RSTF).
3. This year’s DSTF features two (2) major activities namely:
 - a. **Tuklas: A Research Project Fair** is a STEM research competition that provides opportunities for Junior and Senior High School learners to showcase their research projects based on their field of interest and real-world problems, issues, and concerns.
 - b. **Innovation Expo: GAWAD AgLiTekno** is a technology innovation competition that aims to recognize the most creative and market-viable project addressing major issues in food safety, water conservation, renewable energy, cyber security, road safety, health, disaster mitigation, agriculture, and the environment.
4. The following are enclosed for information and guidance of all concerned:
 - Enclosure No. 1 - DSTF 2024 Program Matrix and Technical Working Committee
 - Enclosure No. 2 - General and Specific Contest Guidelines
 - Enclosure No. 3 - Schematic Diagram on the Flow of STF Activities
 - Enclosure No. 4 - *Tuklas* Research Paper Format
 - Enclosure No. 5 - Innovation Expo Paper Format
 - Enclosure No. 6 - *Tuklas* Display Board Dimension and Format



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- Enclosure No. 7 - Innovation Expo Display Board Format
- Enclosure No. 8 - *Tuklas*-Project SRC Review and Recommendation Report
- Enclosure No. 9 - Format of Data and Report for Submission of SSTF
- Enclosure No. 10- Color and number codes for the different contest categories

5. Secondary school heads are requested to inform their Science Department Heads or Science leaders, STE Program Coordinators, STE research teachers, and SHS research teachers, at the 2024 DSTF Online Orientation Meeting on **October 9, 2024, at 2:00 pm** at meet.google.com/btk-ahdj-mow

6. The official participants from each school at the Division Science and Technology Fair shall only be the **Rank 1** School Winners in each category. Substitutes shall not be allowed. The distribution and the maximum number of official participants are the following:

Number of Student Participants per School			
Life Science Category (3-4)		Robotics and Intelligent Machines Category (3-4)	
Individual	1	Individual	1
Team	2-3	Team	2-3
Physical Science Category (3-4)		Mathematics and Computational Science Category (4)	
Individual	1	Individual	1
Team	2-3	Team	2-3

7. The food, transportation, and other incidental expenses of the official participants shall be charged against the School Local Funds subject to the usual accounting and auditing rules and regulations.

8. The School Science Coordinators are requested to submit to the Division Office, through the email address gemima.estrabillo@deped.gov.ph, the reports using the format found in Enclosures 13 and 14 and in the approved handbook on or before **October 25, 2024**. All division entries shall be printed (three copies) and electronic (PDF file via USB Flash drive). Failure to submit the report and projects on time shall disqualify the school from participating in the division fair.

9. Immediate and wide dissemination of this Memorandum is earnestly desired.

ENGR. EDGARD C. DOMINGO, PhD, CESO V

Schools Division Superintendent





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Encl: As stated

References: RM No. 683, s. 2024

School, Division, Regional, and National Science and Technology Fair Guidebook (unpublished)

To be indicated in the Perpetual Index
under the following subjects:

CONTEST
SCIENCE
LEARNERS
SCIENCE AND TECHNOLOGY FAIRS

CID-EPSVR/GAE/October 07, 2024



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Enclosure No. 1 to Division Memorandum No. ____, s. 2024

DSTF 2024 Program Matrix and Technical Working Group

Time	Activities	
	Science investigatory Projects (Private and Public Schools)	Science -In-Action (Public Schools Only)
8:00 am.-8:30 am.	Registration	
8:30 am.-9:00 am	Opening Program (Nationalistic Song, Opening Prayer, Division Hymn, Welcome and Opening Remarks, Statement of Purpose and Mechanics of Screening and Evaluation of Research Entries	
9:00 am.-9:30 am	Health Break	Health Break
9:30 am -10:30nn-	Board Display of SIP	
10:30pm.-12:00pm.	Oral Defense Life and Physical Science	Science- In -Action (Batch 1 Schools)
12:00pm-1:00pm	Lunch Break	
1:00pm- 2:30pm	Oral Defense RIM and Computational Mathematical Science	Science-In-Action (Batch 2 Schools)
2:30 pm – 4:00pm	Oral Defense Innovation Expo Category	Science -In-Action (Bach 1 and 2 Winners)
4:00 pm.-4:30 pm.	Deliberation of Qualifier to RSTF 2024	
4:30 pm.-5:30 pm	Closing Ceremony (Awarding of Certificates, Closing Remarks, and Additional Reminders)	

DSTF 2024 TECHNICAL WORKING COMMITTEE

Name	Position	School
1. Lorie Macatula	Head Teacher III	Francisco G. Nepomuceno MHS
2. Ailyn Dizon	Head Teacher I	Northville 15 Integrated School
3. Edytha Hipolito	Head Teacher III	Angeles City National Trade Sch.
4. Analiza Coricor	Head Teacher VI	Angeles City National High Sch.
5. Abigael Pineda	Teacher II	Francisco G. Nepomuceno MHS
6. Marife DV Santos	Teacher III	Clemente N. Dayrit Elem School
7. Arnel C. Perez	Master Teacher 1	Angeles City National High School



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Enclosure No. 2 to Division Memorandum No. ____, s. 2024

GENERAL AND SPECIFIC CONTEST GUIDELINES

GENERAL CONTEST GUIDELINES

1. All contestants should be at the contest venue 15 minutes before the contest starts and should register.
2. For the oral presentations, the contestants will be randomly assigned in no particular order.
3. Contestants should be in smart casual attire and must wear the assigned contest code ID.
4. Only authorized persons are allowed to stay at the venue during the contest proper.
5. Contestants are not allowed to use cellular/mobile phones and the like during the contest.
6. All qualified projects will be evaluated during the oral presentation. Student researcher/s is/are advised to submit a copy of the PowerPoint presentation to the assigned Technical Working Group (TWG) member per Breakout Session.
7. Proponent/s will be given 5 minutes to present their research project.
1st bell - Start of the presentation
2nd bell - Last two minutes
3rd bell - End of the presentation
8. The board of judges will be given 10 minutes to ask questions to the proponent/s.
9. The decision of the Board of Judges is **final and unappealable**.

SPECIFIC CONTEST GUIDELINES

A. Science Innovation Expo

1. Science Innovation Expo is designed to showcase the products and innovations of learners in the form of **gadgets or tools**. It aims to crowd-source and display Science and Technology innovations and solutions to everyday challenges. Furthermore, it also aims to develop appropriate technologies by taking advantage of patent information to identify suitable solutions to technical problems.
2. The competition shall start at the school level advancing to the division, regional, and national levels.
3. This contest is open for both individual and team innovators consisting of a two-three (2-3) members only.
4. Only projects/innovations/inventions that are not yet patented or already in the initial process of patent application are allowed to join the competition.
5. Each school should send one (1) best invention by an individual and one (1) by a team.
6. Format of the Paper Invention Report in Enclosure 9 shall be followed.
7. Three (3) hard copies, with soft copies in USB Flash drive, of the paper invention report with endorsement from the school shall be submitted on or before **October 25, 2024**.
8. The paper report shall be in soft-bound packaging with a clear/transparent hard plastic cover on top and cardboard or half of the folder at the back cover. The title



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page should be on white bond paper. The hard copy shall have one (1) USB Flash drive of the soft copy of the report placed on the back cover.

- The hard copies and USB Flash drive should be properly coded. The category code of the study shall be also written on the USB Flash drive. Refer to Enclosure 10 for the color and number codes for the different contest categories.
- The format of the innovation expo display board in **Enclosure 7** shall be used.
- The rank 1 best invention by an individual or by a team shall be the division 1 official entry to the Regional First Round of Evaluation.

B. Research Competitions

- The competitions shall be conducted among Junior and Senior High School students from both public and private schools. **There is no separate contest for the Junior and Senior High Schools.**
- Science research/investigatory projects should be new (not a repetition of years back projects) or a continuation of the previous year's project and conform with international rules published by the Intel International Rules for Pre-College Science Research: Guidelines for Science and Engineering Fairs (see <https://www.societyforscience.org/isef/international-rules/>). Each project should have one Research Adviser and an Institutional Review Board or a Scientific Review Committee.
- The competition shall start at the school level advancing to the division, regional, national then to the international level. The participation of schools in the Science and Technology Fair shall be categorized into **four (4) types, Life Science, Physical Science, and Robotics and Intelligent Machines, and Mathematics and Computational Sciences.**

Life Science (LS)		Physical Science (PS)		Robotics and Intelligent Machines (RIM)		Mathematics and Computational Sciences (MCS)	
Individual Project	Team Project	Individual Project	Team Project	Individual Project	Team Project	Individual Project	Team Project

- Team Projects in the four (4) categories, LS, PS, RIM, and MCS shall be composed of two (2) or three (3) researchers from **Grades 9 to 12. One (1) leader** and only **one (1) research adviser** shall be designated.
- The research plan and scientific research paper must follow the format based on the ISEF Rules.
- Only the **first-place winners** in the four (4) categories at the School level shall be officially endorsed by the School to the Division Office, (**see FORMAT OF DATA 1**), together with the three (3) copies of write-ups of their Investigatory Projects with 3 sets of complete required forms and Research Plan (**see Checklist of Forms**) in 3





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separate folders and 3 scanned copies of Research Logbook in another 3 separate folders on or before **October 25, 2024**, for evaluation and screening to be done by the Division Scientific Review Committee (DSRC) on **Nov 2 to 6, 2024**. Online validation and Online Oral Defense will be on **November 11-12, 2024**. The link will be given to the research adviser a day before. Each school shall submit a maximum of **eight (8)** projects as entries to the scientific review and evaluation of projects, 1st Place winners in their SSTF.

7. **Projects** that are to be found **plagiarized** and with **incomplete required forms** during the screening and evaluation are **automatically disapproved**.
8. Manuscripts should be in soft-bound packaging with a clear/transparent hard plastic cover on top and cardboard or half of the folder at the back cover. The title page should be on white bond paper. Each hard copy shall contain a **USB Flash drive** of the **soft copy of the write-up, required forms, and scanned copy in pdf file** and should be placed on the back cover. Three (3) sets of complete required forms and scanned/photocopies of the project notebook should be placed separately in four (4) sliding folders (**please refer to the Scientific Review & Recommendation Report Form for the sequence/arrangement of the forms**). *Covers of the manuscript, required forms, and scanned/photocopy of the project notebook shall be properly coded using the given color and number codes for different contest categories in Enclosure 1.* Sticker paper should be used in coding the manuscript. The font size of the code is 48 and the font is Bookman Old Style. This shall be placed on the upper right-hand corner of the transparent cover.
9. Only the proponents and research advisers of investigatory projects approved by the Division Scientific Review Committee are the official participants of the **Science Congress** of the DSTF on **November 15, 2024**.
10. The **eight (8) projects** that will be adjudged as **First Place** in the four (4) categories: Life Science – Individual & Team, Physical Science – Individual & Team and Robotics and Intelligent Machines - Individual and Team, and Mathematics and Computational Sciences-Individual and Team in the **Science Congress** shall be the regional official entries to the **Division Scientific Review of Investigatory Projects**.
11. Only the **projects approved** by the **Division Scientific Review Committee** shall **participate** in the **DSTF 2024**.
12. The following are forms and manuscripts to be submitted in all levels of competition:
 - A. **RESEARCH PLAN**
 - B. **FORMS for all the projects**
 - a. Checklist for Adult Sponsor
 - b. Student Checklist (1A)
 - c. Research Plan (NOTE: No need to attach the Research Plan Instructions)
 - d. Approval Form (1B)
 - e. Regulated Research Institutional/Industrial Setting Form (1C)



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- C. **FORMS depending on the type of research (e.g involving humans, vertebrate animals, hazardous chemicals, etc.)**
 - a. Qualified Scientist Form (2)
 - b. Risk Assessment Form (3)
 - c. Human Participants Form (4)
 - d. Human Informed Consent Form
 - e. Vertebrate Animal Form (5A)
 - f. Vertebrate Animal Form (5B)
 - g. Potentially Hazardous Biological Agents Risk Assessment Form (6A)
 - h. Human and Vertebrae Animal Tissue Form (6B)
 - i. Continuation Project Form (7)
- D. **Abstract (Maximum of 250 words)**

The abstract should include the following:

 - a. Purpose of the experiment
 - b. Procedure
 - c. Data conclusion

The abstract may NOT include the following:

 - a) Acknowledgement
 - b) Work of procedures done by the mentor
- E. **Research Paper** (Include the Title Page, Abstract, Main Body, and References)
- F. **Project Evaluation Form** (see Enclosure 15)
- G. **Scanned copy of the log book in pdf format**

- 13. **Project proponents should have been screened by the Institutional Review Board (IRB)/Scientific Review Committee (SRC) at the school level.** All **school-level winners must be certified by the division SRC** to join in the **division-level fair**.
- 14. The **Division Science Supervisor** shall be a **member of the BOJs** who shall **determine the school/division winners** of the different categories and fair divisions.
- 15. Winners at the school level shall be officially endorsed to the division office for the division level. Likewise, the division-level winners shall be officially endorsed to the regional office.
- 16. A thorough review of the research paper of the students starting from the school level (by the research adviser), and division level (by the division science fair coordinator) must be done before submitting it to the regional level to ensure the quality and completeness of the said paper.

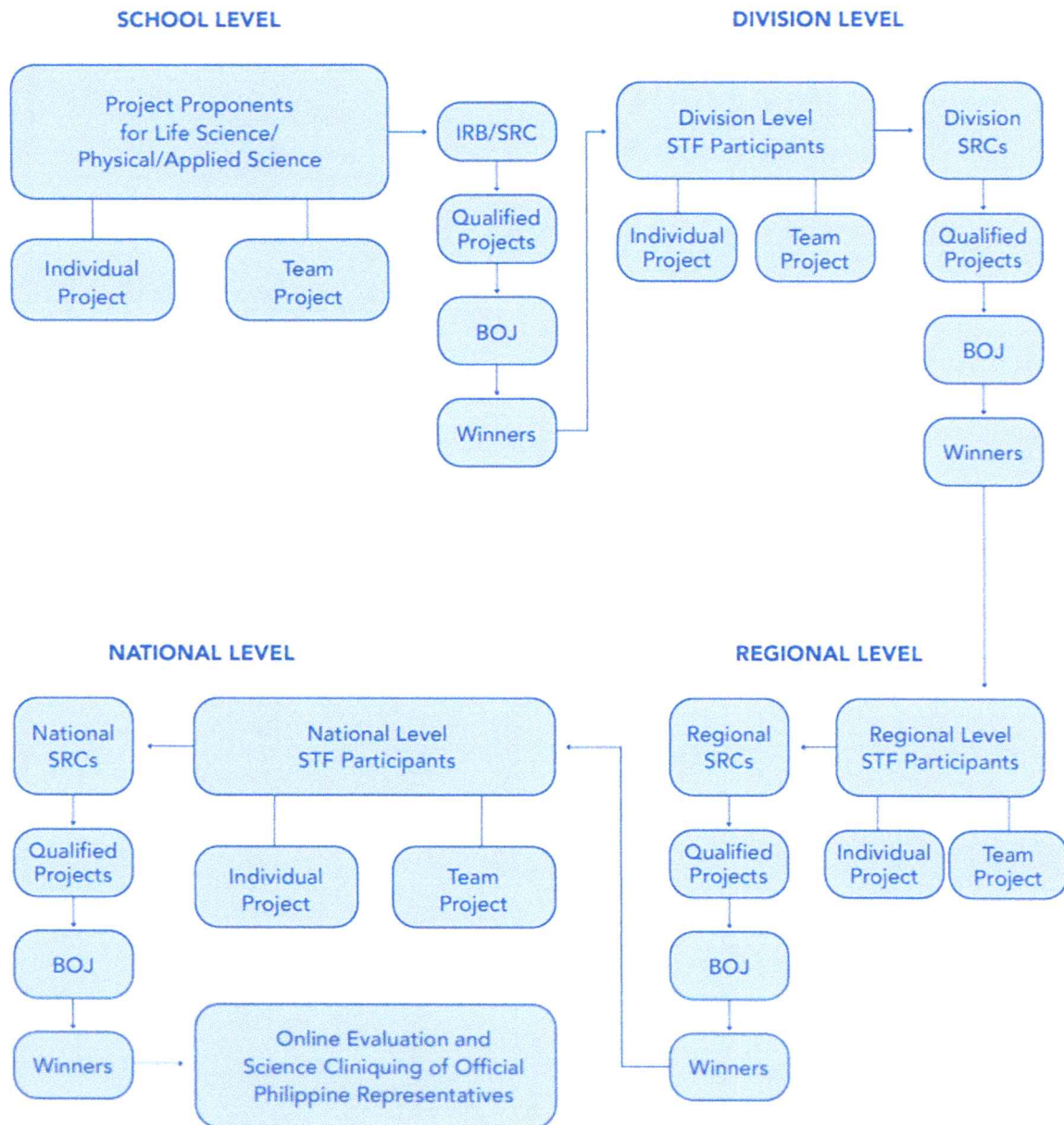
REMINDER: All changes in the forms as stipulated in the approved handbook and in accordance with the ISEF Forms must be followed by all participants.



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Enclosure No. 3 to Division Memorandum No. ____, s. 2024

SCHEMATIC DIAGRAM ON THE FLOW OF STF ACTIVITIES





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Enclosure No. 4 to Division Memorandum No. ____, s. 2024

TUKLAS RESEARCH PAPER FORMAT

- I. Research Plan:** This is to be written before experimentation following the instructions below to detail the rationale, research questions, methodology, and risk assessment of the proposed research. (This is compiled separately from the rest of the investigatory paper): All projects should include the following:
- B. 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.*
 - C. Research Question or Problem being addressed**
 - D. Goals/Expected Outcomes/Hypotheses**
 - E. Procedures:** *Detail all procedures and experimental designs to be used for data collection.*
 - F. Risk and Safety:** *Identify any potential risks and safety precautions needed.*
 - G. Data Analysis:** *Examine, organize, and interpret data to answer research questions, or either accept or reject hypotheses.*
 - H. Bibliography:** *List at least **five (5) major references** (e.g. science journal articles, books, internet sites) from your literature review using the APA style formatting and citation. If you plan to use **vertebrate animals**, one of these references must be an **animal care reference**.*

II. Project Data Book:

A project data logbook is an organizational tool used by student researchers to organize and record narrative and evidence of the research activities including the planning, research design, drawings/illustrations, procedures, data collection, analysis and presentation, inferences, and conclusions.

- A. Detailed and accurate notes in paragraphs or bullets show consistency and thoroughness, which will be helpful when writing the research paper.
- B. It is also recommended to use hardbound record notebooks instead of spring notebooks to avoid tearing out pages, write entries using permanent pens, and minimize erasures.
- C. Procedures are to be presented in flow charts and data in organized tables. Each data entry (qualitative and quantitative) should also be accurately recorded, dated, and signed by the supervising adult (if applicable) during the research activity.
- D. Each data logbook entry should also be dated and signed by the supervising adult (if applicable) during the research activity.

If erasures cannot be avoided, strike the word, phrase, sentence, or figure or numbers once and countersign each. Avoid using correction tapes and the like.



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III. Research Paper Format:

Science Project	Engineering Project	Mathematics and Computer Sciences Project
Introduction Methods Results Discussion Conclusions References	Introduction Methods Results Discussion Conclusions References	Introduction Framework Findings Conclusions References

Note: Check the details and description of the components of the research paper in the approved STF handbook.

IV. Abstract:

The abstract **should be 250 words or less**. Do not discuss specific aspects of the research in great detail, including experimental procedures and statistical methods. Any information that is unnecessary to include in a brief explanation should be saved for the written research paper or the project exhibit board.

If the project is a continuation of a previous year, the abstract should summarize the current year's work only. If mention of supporting research from the previous year(s) is necessary, it must be minimal.

If the abstract text includes special characters, such as mathematical symbols, which won't be translated electronically, please spell out the symbol.

Do not include acknowledgments in the abstract. This includes any references to mentors, instructional facilities,, and awards or patents received.

Contents of the Abstract Portion

Title of the Research

Finalist's Name (or names, if a team project)

School Name, City, and Region

Purpose

- An introductory statement providing background, namely the reason, for investigating the project topic.
- A statement of the problem the research is looking to solve or the questions being tested.

Procedure

- A brief overview of how the investigation was conducted, highlighting key points, and including methods and resources used.





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- Do not provide details about materials used in the research unless they greatly influenced the procedure or were needed to conduct the investigation.
- An abstract should only include procedures by the Finalist. Do not include work done by a mentor (such as surgical procedures) or work done prior to the Finalist's involvement.

Observations/Data/results

- This section should provide key results that lead directly to the conclusions you have drawn.
- Do not include necessary data or observations about the results, nor tables, charts, graphs or other images. While these belong in the research paper or the project board, they do not belong in the formal Intel ISEF abstract.
- Unless significant, do not include any of the experimental design difficulties encountered in the research.
- The Intel ISEF abstract does not include a bibliography. ISEF requires the bibliography as part of the research plan to be provided on Form 1A.

Conclusions

- This section should be confined to a short summary in 1-2 sentences. It is a reflection on the research process and results, which may include conclusive ideas, important applications, and implications of the research.

SAMPLE ABSTRACTS

2018 ISEF Second Grand Award, Energy Physical	2018 ISEF Third Grand Award, Earth and Environmental Science
Solar-Tracking Adaptive Robot PV Panels	Biosorption of Manganese Mine Effluents Using Crude Chitin from Shell Wastes of Philippine Bivalves
By Cadores, Keith Russel; Rivera, Eugene; Manzanero, Joscel Kent Adviser: Johnny T. Samino <i>School Name, City and Region should also be included</i>	By Saquin, Elaine; Molejona, Randt Adviser: Ronilo Aponte <i>School Name, City and Region should also be included</i>
The leading sources of energy globally are oil, coal, and natural gas – fossil fuels that can be depleted, and whose access and use greatly impact the environment. Hence, much study has been made of renewable energy sources and use, including harnessing solar power through a photovoltaic cell. The study aimed to improve the power harvesting and generating capacity of photovoltaic cells by designing and building a solar device that mimics a flower opening when the sun is out, tracks the sun's movement, closes when the light source is no longer detected and responds to humidity and temperature to maximize power generation. Six (6) photovoltaic panels are mounted on a base operated by servo motors and controlled by Arduino module. Electronics, servo motors,	The area around Ajuy River in Iloilo, Philippines is currently being mined for manganese ore, and river water samples exceed the maximum manganese contaminant level set by the US-EPA. At the same time, the surplus of local bivalve waste is another environmental concern. Studies show that chemical treatment comprises water quality leaving toxic residues, and alternative treatment process is biosorption, or using the physical chemical properties of a biomass to adsorb heavy metals in contaminated water. The study aims to extract crude chitin from shell wastes of <i>Bractechlamys vexillum</i> , <i>Perna viridis</i> , and <i>Placuna placenta</i> and determine its adsorption capacity on manganese in simulated and actual mine water. Crude chitin was obtained by pulverization, deproteinization,





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Arduino, and humidity sensors were acquired commercially. Other materials included those repurposed from a broken umbrella and electric fan, and scrap acrylic sheets. The device's performance was compared to that of a fixed-mounted photovoltaic *panels* at different stages. The fixed setup generated 4.71W while the petal panels produced 6.95W, a 47.72% increase. Taxing the power consumption of the device to the power it generates gives an average of 6.09W. This translates to a 29.29% improvement from the 4.71W generated by the fixed panel setup. T-Test for Dependent Means was used and showed that there is a significant difference between the power generations of the two setups ($p= 0.000261$, $\alpha= 0.05$) This robotic design amplifies capacity to harness solar power through a photovoltaic cell.

demineralization, and decolorization of shells. Biosorption by flocculation followed 5 g: 50 mL chitin-to-water ratio. Filtrates were analyzed using MP-AES after 24 hours. In both actual and simulated mine water respectively. *B. vexillum* yielded the highest adsorption percentage of 91.43% and 99.58%, comparable to *P. placenta* of 91.43% and 99.37%, while significantly different to *P. viridis* of -57.14% and 31.53%, ($p<0.05$). FT-IR validated that presence of chitin in shells based on carbonyl-containing functional groups at peaks 1530-1560 cm^{-1} and 1660-1680 cm^{-1} . SEM micrographs showed the amorphous and non-homogenous structure of chitin. Thus, crude chitin from *B. vexillum* and *P. placenta* can be biosorbents for water treatment of manganese-impacted effluents, and promote appropriate waste management of local bivalves.

REMINDER: All changes in the parts of the research paper as stipulated in the approved handbook must be followed by all participants.



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Enclosure No. 5 to Division Memorandum No. ____, s. 2024

INNOVATION EXPO PAPER FORMAT

Title Page and Table of Contents: The title page and table of contents allow the reader to follow the organization of the paper quickly.

Introduction:

1. **Features and Specifications** – This describes the details of your invention.
2. **Market Trends and Opportunities** – This part of the report must include three items: what inspired you to develop this invention, an explanation of what problem your invention will solve, and describe in detail how you determined that the invention that you created did not already exist. Explain what products are already on the market that are somewhat like your invention and describe how yours differs.

Materials and Methods: Describe in detail how you made your invention. Explain what materials were used and how you put them together to make your invention. Your report should be detailed enough so that someone would be able to repeat the steps and make your invention. Directions on how to use the invention are also necessary here. You must include a detailed drawing(s) of your invention.

Results and Discussion: This is the essence of your paper. Compare your results with theoretical values, published data, literature, and related studies, commonly held beliefs, and/or expected results. Include a discussion of possible errors, statistics, graphs pages with your raw collected data, etc. How did the data vary between repeated observations of similar events? How were your results affected by uncontrolled events? What would you do differently if you repeated this project? What other experiments should be conducted?

Conclusions: This discusses the potential applications, possible customer benefits, and the impact of the problem in solving problems and issues of today and tomorrow.

Acknowledgments: You should always credit those who have assisted you, including individuals, businesses, and educational or research institutions.

References/Bibliography: Your reference list should be written based on the APA (American Psychological Association) style formatting and citation.

REMINDER: *All changes in the parts of the innovation expo paper as stipulated in the approved handbook must be followed by all participants.*



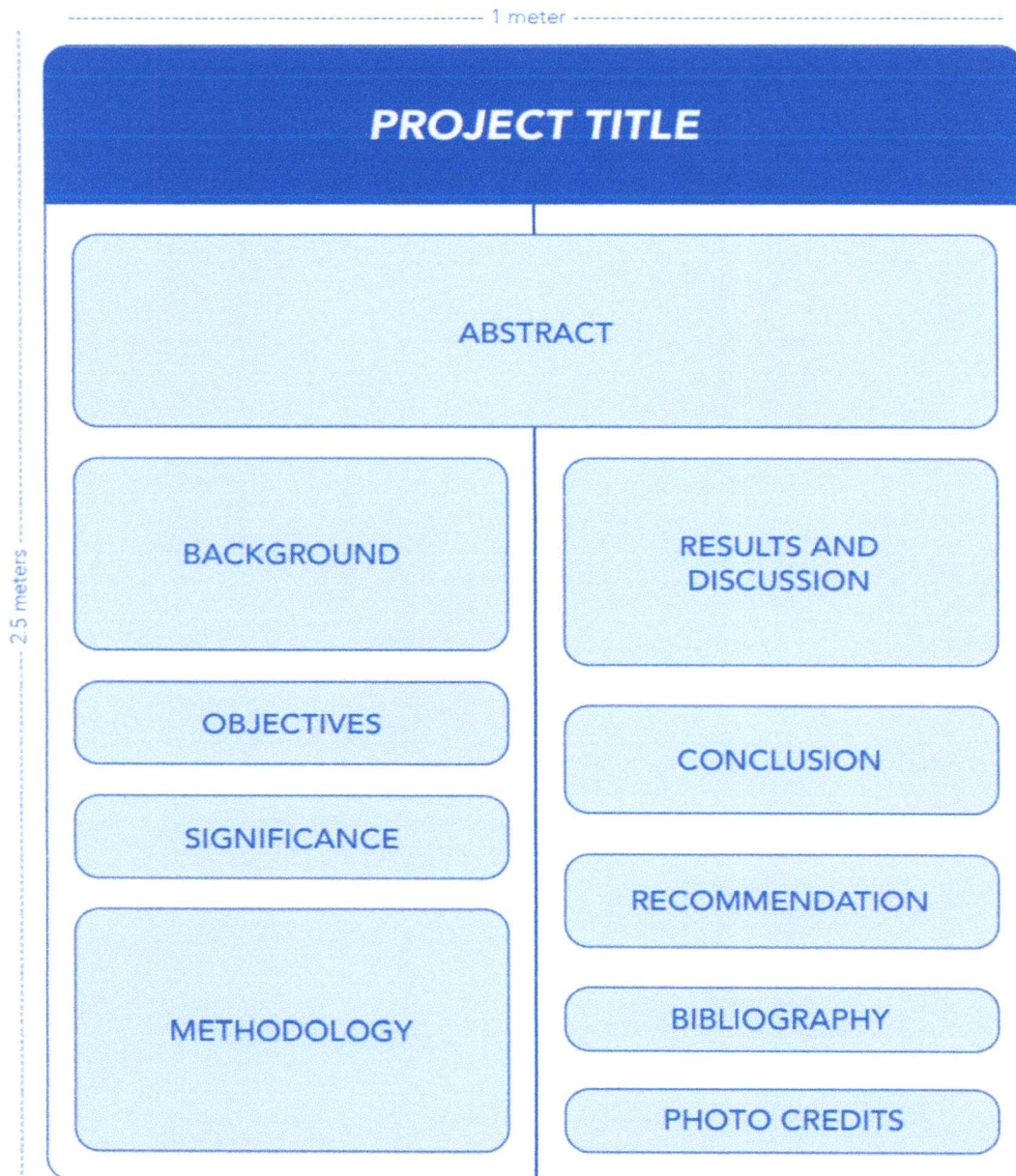


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Enclosure No. 6 to Division Memorandum No. ____, s. 2024

PHYSICAL PROJECT BOARD DIMENSION FOR TUKLAS

The dimensions of the project board may not exceed 2.5 m high and 1m wide.



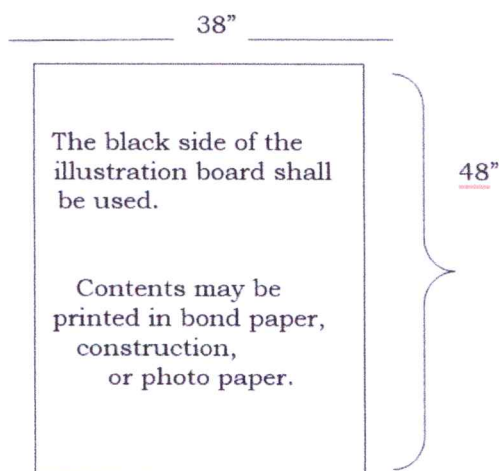


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Enclosure No. 7 to Division Memorandum No. ____, s. 2024

INNOVATION EXPO DISPLAY BOARD FORMAT

Title	Create a clear and attention-grabbing title that accurately reflects your innovation.
Introduction	Provide a brief introduction to your innovation, highlighting its purpose and significance.
Problem Statement	Clearly state the problem or challenge that your innovation addresses.
Solution/ Innovation	Describe your innovative solution concisely and prominently on the poster.
Features and Specifications	Present the key features and specifications of your innovation using bullet points or visuals.
Materials and Methods	Use simple visuals or graphics to illustrate the materials used and the steps in the development process.
Results and Discussion	Showcase the results of your innovation and compare them to expectations or existing solutions. Use graphs, charts, or infographics to present data effectively.
Benefits	Emphasize the potential benefits of your innovation to the target users or the community.
Visuals	Include images, diagrams, and photographs to enhance the visual appeal and understanding of your innovation.
Conclusions	Summarize the main conclusions and the broader implications of your innovation.
Future Development	Discuss potential future developments or applications of your innovation.
Developers' Name	Indicate the name/s of the proponent/s (Do not indicate the name of the school/region)



Specifications: Each Display Board must have **38" x 48"** dimensions (portrait style)





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UPDATED CHECKPOINTS FOR SRC REVIEW

This document was developed to provide guidance for Scientific Review Committee (SRC) to review a project after experimentation.

TYPE OF FORM	WHO WILL FILL OUT?	WHEN TO FILL OUT?	WHEN IS IT REQUIRED?
Form 1 – Checklist for Adult Sponsor	Research Adviser	Before experimentation	Required for all Projects
Form 1A – Student Checklist	Student Researcher/s	Before experimentation	Required for all Projects
Form 1B – Approval Form	Student Researcher/s	Before experimentation	Required for all Projects
Research Plan/Project Summary	Student Researcher/s	Before experimentation	Required for all Projects
Form 1C – Regulated Research Institution/Industrial Setting Form	Adult supervising	After experimentation	Required if research conducted in a regulated research institution, industrial setting or any work site other than home, school or field
Form 2 – Qualified Scientist Form	Qualified Scientist/Adult Supervising	Before experimentation	Required if research involving human participants, vertebrate animals, potentially hazardous biological agents, and hazardous chemicals (Drug Enforcement Administration (DEA)-controlled substances
Form 3 – Risk Assessment Form	Student Researcher/s Qualified Scientist/Adult Supervising	Before experimentation	Required for all Projects
Form 4 – Human Participants Form	Student Researcher/s Institutional Review Board (IRB)	Before experimentation	Required if research involves human participant <i>*if in a regulated research institution, use institutional approval forms</i>
Form 4A – Human Informed Consent Form	Student Researcher/s Research Participant	Before experimentation	Required if research involves human participant
Form 5A – Vertebrate Animal Form	Student Researcher/s Scientific Review Committee (SRC) Veterinarian Designated Supervisor/Qualified Scientist	Before experimentation	Required for all research involving vertebrate animals that is conducted in a school/home/field research site
Form 5B – Vertebrate Animal Form	Student Researcher/s Qualified Scientist	Before experimentation	Required for all research involving vertebrate animals that is conducted in Regulated Research Institution, with IACUC (International Animal Care & Use Committee) preapproval
Form 6A – Potentially Hazardous Biological Agents Risk Assessment Form	Student Researcher Qualified Scientist/Designated Supervisor	Before experimentation	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.





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Form 6B – Human and Vertebrate Animal Tissue	Student Researcher Qualified Scientist/Designated Supervisor	Before experimentation	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
Form 7 – Continuation/Research Progression Project Form	Student Researcher	Before experimentation	Required for projects that are a continuation/progression in the same field of study as previous project.

PRE- APPROVAL

Human Participants: Does the study mention people, interviews, responses, answers, consent, etc. (**requires Form 4**). Exempt studies include prototype/invention testing, if only done by student researcher, public data review, some observational studies. All others require IRB preapproval.

Animals: Look for indications of type of study and research site. Strictly observational studies with no interaction are exempt. Tissue studies in which the student is given the tissue and did not interact with the animal do not need animal forms but will still need preapproval as a PHBA tissue study.

A. Projects may be conducted at home, school, or field **ONLY IF** the study involved agricultural, behavioral, observational, or supplemental nutrition **AND** was non-invasive **AND** had no negative effects on health and wellbeing (**requires Form 5A**).

B. Projects must be conducted at research institution with **IACUC preapproval** in all other cases (**requires Form 5B**).

PHBA’s Study included microorganisms, rDNA, or fresh/frozen tissue, blood, body fluids. Used terms like culturing, plating, tissue, source of tissue, etc. Exemptions include non-primate established cell lines, yeast, lactobacillus, meat from a grocery store, and other items listed in the rules (all non-exempt PHBA’s **require Form 6A** and **IRB pre-approval; tissue studies require Form 6A, 6B, and IRB pre-approval**)

Was the study done at a **Regulated Research Institute/Industrial Setting (RRI)**? Is the terminology or equipment very sophisticated? Look for possible RRI. (**Form 1C**)

Does this appear to be a **Continuation**? Any mention of previous research? Uses terms like previously, earlier research, improved, redesigned, year 3, etc. (**Form 7**)

Any discussion of a **Partner** in a non-team study? Uses **“we”** consistently (math projects and international studies frequently use “we” for all studies). **Form 1C** answers this question for studies done at a university.





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Any possibly **hazardous chemicals, activities, or devices**? Includes high voltage, hazardous equipment, radioactivity, firearms, explosives, prescription drugs, DEA-controlled substances, alcohol and tobacco. (**Form 3**)

Time Line Project appears too long/too old: more than one year or started before January of last year. (**Form 1A** contains this information)

CHECKBOXES ON ABSTRACT

Checkbox 1. Project involved human participants, vertebrate animals, or PHBA"s. Requires preapproval and additional forms. Exempt studies do not check this box.

Checkbox 2. Abstract may only reflect their work not the mentor"s. May require abstract rewrite.

Checkbox 3. Worked at RRI. (**Requires 1C**)

Checkbox 4. Project is a continuation. (**Requires Form 7, previous abstract & research plan**)

CHECKLIST FOR ADULT SPONSOR (1)

This form asks more specifically about projects that required preapproval (humans, animals, PHBA"s), continuations, RRI"s, and lists the forms that are required. The answers to this checklist need to be consistent with the answers on other forms.

This **page is signed** when the project is reviewed which should be **before** the **project starts**.

STUDENT CHECKLIST (1A)

Grade: Student must have been in high school at time of research in order to compete.

Contact information: If questions cannot be resolved from the paperwork, it is sometimes necessary to contact the student or adult sponsor.

Continuation: If a continuation must include **Form 7**, previous abstracts, and last year"s research plan. This information should match the checkmarks on the abstract and on **Form 1**.

Start/End Dates: Project may only be one year in length and may not have started before January of the previous year. Student should have competed in the first fair which was held after the end date. Fair dates can be found in the Find-a-Fair search.

Information regarding Research Site: This will tell you if you need additional paperwork. For example, **Form 1C for RRI**, **Form 5A** if animals at school, field, home, **Form 5B** if animals at RRI, no culturing of microorganisms is allowed at home (FTQ), **Form 6A** for BSL-1 & BSL-2 studies which must be in the appropriate facilities.





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RESEARCH PLAN/POST PROJECT SUMMARY

Review the research plan and post project summary to find information regarding each of the questions asked in previous section under Abstract. The Research Plan and Post Project Summary Instructions page lists the items that should be included. This needs to be very detailed and must be consistent with the documentation found on all other forms. If more information is needed about the study, the student or adult sponsor may need to be contacted (email, phone or interview).

Human Participants:

Look for information about subjects (any risk groups), recruitment, methods, risks & benefits, protection of privacy (HIPPA & FRPA), and informed consent (participant knows what they are being asked to do, that they may withdraw at any time, there is no coercion, etc.). Must have preapproval and often will require written consents. **(Requires Form 4)**

Is the level of risk appropriate? What risk assessment was done? Should the study have written Consent/Permission/Assent? Is the survey attached?

Animals:

Pay particular attention to the detailed procedures and care of the animals in the research and if they looked for alternatives to animal research. **(Requires 5A or 5B and SRC or IACUC pre-approval)**

Look for any potential FTQ items such as a study conducted at home, school or field that should have been done at an RRI, no indication of preapproval, any animal deaths due to experimental procedures, weight loss $\geq 15\%$ in any group or subgroup, toxicity studies, studies designed to kill, studies which cause more than momentary pain or suffering, predator/prey, inappropriate water or food restriction, euthanasia by student, etc. Ensure that an allowable embryonic study didn't hatch and become a vertebrate study that is not permitted.

PHBA's: (Potentially Hazardous Biological Agents)

The source, quantity, and Biosafety Level (BSL) must be indicated for all microorganisms including established cell lines. All non-exempt microorganisms, cell lines, and tissues require **SRC pre-approval, Form 6A and sometimes Form 6B.**

Culturing of microorganisms may NOT be conducted at home. (FTQ) All BSL-1 studies must be conducted at a BSL-1 facility or higher. If a petri dish or culture container with unknown or BSL-2 microorganisms is opened, it becomes a BSL-2 study and may only be conducted at a BSL-2 facility. (FTQ if opened, subcultured, etc. in BSL-1 lab.) Most high school laboratories are BSL-1 facilities but it is possible that a high school could meet the more stringent requirements of a BSL-2 lab. BSL-3 or -4 studies, culturing CRE (Carbapenem Resistant *Enterobacteriaceae*), and studies designed to engineer bacteria with multiple antibiotic resistance are not permitted.





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Procedures to minimize risk must be clearly indicated. rDNA studies require close review to ensure proper oversight. Proper disposal methods must be listed (autoclaving, 10% bleach solution/sodium hypochlorite, biosafety pick up, etc.).

Hazardous Chemicals, Activities, or Devices:

Look for detailed descriptions of risks and safety precautions and procedures used including the methods of disposal.

APPROVAL FORM (1B)

Dates: Signatures from student and parent should be before the start date shown on **1A**.

Preapproval #2a: Must be signed by SRC or IRB before experimentation begins (**Start date on 1A**) for human, animal, and PHBA studies but possible FTQ if no preapproval is documented.

Post approval #2b: SRC signs after experimentation ends (**End date on 1A**) if the study was conducted at a RRI. Institutional approval forms must also be submitted. (Possible FTQ)

Note: Some fairs will have the fair SRC pre-review a study before it is done at an institution, even if it is approved before experimentation by the institution, and then will also post-approve after the study is complete. They will therefore sign both boxes. Usually, however, it is either pre- or post-approval, not both.

Final SRC Approval: This is signed after the project is complete (**End date Form 1A**) and immediately before competition.

REGULATED RESEARCH INSTITUTION FORM (1C)

The information provided by the scientist on this form must be consistent with what the student answered on other forms. It must not be filled out by the student. This form is posted so the judges can easily see exactly what the student did rather than what the mentor or others in the research group did. All information must be on the form not “see attached.” This form may only be from a university, college, or industrial site and may not be from their high school.

Checkboxes a) and b) help determine who did what and where.

Questions:

1. “Have you reviewed the rules” helps determine the amount of oversight and if an error was made in following the rules, if this an adult problem or a student problem or both.
2. “Is this a subset of your work” helps differentiate student research from mentor research.
3. “How did student get idea” helps determine originally by student.
4. “Was student part of a research group” indicates whether student worked with another high school student, which is only allowed for team projects not individual, or was part of a larger team of adult researchers, undergraduate or graduate students, which is





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allowed. Students are judged only on their own work, so it needs to be clear what part of the study was done by the entire group or the mentor and what was the student's work.

5-6. "What procedures" and "how independent" again help indicate what was actually done by the student.

Continuation: Frequently, the mentor will say "the student worked with me last year" or "in his previous research" or list dates of research which will indicate that the study must be treated as a continuation with **Form 7**, etc. It also could indicate that the study is too old, too long, or that the student is presenting multiple years of research.

This form is signed by the mentor AFTER the study is completed (**End date on 1A**).

QUALIFIED SCIENTIST FORM (2)

Look for answers that are consistent with the information on other forms. For example, if the scientist marks yes to "used humans" but other human subject forms aren't present, will need to clarify. Any yes responses on #2 will require documentation on additional forms.

This form documents the amount of oversight that the student had and the safety precautions needed. The QS and DS review the study before the experiment begins. All **approval signatures must be before research begins (Start date on 1A)**.

Even when not required, this form may be submitted to show the oversight of the study.

RISK ASSESSMENT FORM (3)

Documents that both the student and the supervisor have assessed the risks involved in the research and describes what safety precautions and procedures are needed including the disposal procedures. **This form is completed before experimentation (Start date on 1A)**.

This risk assessment is required for hazardous chemicals, activities, or devices, and for some PHBA's including protists, composting, coliform water test kits, decomposition of vertebrate organisms, etc.

Even when not required, this form may be submitted to show the oversight of the study.

HUMAN SUBJECTS FORM (4)

Make sure **Form 4** is complete including decision checkmarks in the box and all 3 signatures. (If project is approved with expedited review, only one signature is required). Missing checkmarks or signatures indicates no documentation of prior review and therefore could Fail to Qualify. All approval dates must be before research begins. (**Start date on 1A**). The IRB should not include the adult sponsor, designated supervisor, qualified scientist or a relative (e.g. parent) of the student because of conflict of interest.





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Research Plan: Refer to the research plan for subject information: any risk groups, recruitment, methods, risks and benefits, protection of privacy (HIPPA & FRPA), and informed consent (participant knows what they are being asked to do, that they may withdraw, no coercion, etc.).

Risk Level: Is the level of risk marked appropriate? Was a risk assessment done? Should the study have written Consent/Permission/Assent? Is the survey attached?

HUMAN INFORMED CONSENT FORM

Does the form clearly explain what the participant is being asked to do, how long it will take, the potential risks and steps that will be taken to mitigate risk, the benefits to the participant or to society, how confidentiality will be maintained, that it is completely voluntary and that they may withdraw at any time.

Adult participants sign giving their consent, minors give their assent, and parents of participants give permission. All **approval signatures must be before research begins (Start date on 1A).**

VERTEBRATE ANIMAL FORM (5A)

Since these animals are not in a research institution, which would provide a high level of oversight, special attention must be paid to the housing and husbandry that will be provided by the student. The final disposition of the animals must also be appropriate. Any death, illness, or unexpected weight loss must have been investigated and documented by an attached letter from the QS, DS, or a veterinarian. **If there were any deaths due to the experimental procedure, the project will Fail to Qualify.**

All **approval signatures must be before research begins (Start date on 1A).** Capture & Release approvals must be attached when applicable.

VERTEBRATE ANIMAL FORM (5B)

Research which causes more than momentary pain or suffering is prohibited. Appropriate use of anesthetics, analgesics and/or tranquilizers must be documented. Any death, illness, or unexpected weight loss must have been investigated and documented by an attached letter from the QS, DS, or a veterinarian.

Euthanasia by student researchers is prohibited so the final disposition of the animals should also be indicated. **If there were any deaths due to the experimental procedure, the project will Fail to Qualify.**

If tissues were collected, how were they obtained and how will they be used.

The **IACUC approval forms must be attached.** They must clearly cover this study and must indicate that the study was approved before the start of the student research. Not all IACUC approval documentation will list the student individually, but the student research training must be indicated on the Form 5B. A letter from the QS or Principal Investigator indicating that the study had IACUC approval is not sufficient.





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PHBA FORM (6A)

Identification, Including Biosafety Level (BSL): The source, quantity, and BSL must be indicated. A plant or non-primate established cell line will not require Form 6A but the student may fill out this form in order to document that it is from ATCC, etc. However, **human and other primate established cell lines and tissue cultures require Form 6A.**

Prohibited Studies: BSL-3 or -4 studies, culturing CRE (Carbapenem Resistant *Enterobacteriaceae*), and studies which are designed to engineer bacteria with multiple antibiotic resistance are not permitted. (FTQ)

Site: Microorganisms may NOT be cultured at home. (FTQ) All BSL-1 studies must be conducted at a BSL-1 facility or higher. If a culturing plate with unknown microorganisms is opened, except for disinfection or disposal, it becomes a BSL-2 study and may only be conducted at a BSL-2 facility. FTQ if opened, subcultured, etc. in BSL-1 lab. Most high schools are BSL-1 facilities but it is possible that a high school could meet the more stringent requirements of a BSL-2 lab (see BSL-2 checklist).

Risk Reduction Procedures to minimize risk must be clearly indicated. rDNA studies require close review to ensure proper oversight.

Disposal Proper disposal methods must be listed: autoclaving, bleach solution, biosafety pick up, etc.

Approval Dates All approval signatures must be before research begins (**start date on 1A.**)

HUMAN AND VERTEBRATE ANIMAL TISSUE FORM (6B)

Students may conduct tissue studies with tissue they are given from an IACUC approved study within a research institution but the animal may not be euthanized solely for the student's tissue study. The first checkbox in the signature box indicates this.

The second checkbox in the signature box is marked to indicate that the substances were handled in accordance with the safety standards for Blood Borne Pathogens.

All approval signatures must be before research begins (**start date on 1A.**)

CONTINUATION FORM (7) Previous Year's Abstract & Research Plan

This form is posted with the project so that the judges can tell at a glance exactly what was new and different about this year's study. All information must be on the form, not "see attached." Because research projects may only be 1 year's work, they will be judged on the current work only not on previous work, and this form is used to document current versus previous research.

Frequently, students don't wish to call their project a continuation, but it's good research to continue a line of investigation even when the focus is now totally different. If the study is in the same field, if anything they learned in a previous year helped with the current





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study, or if the current study refers to any earlier research, then it is a continuation and **Form 7**, and **previous abstract** and research plan are required.

Repetition of a previous study that reflects no changes but simply retests or increases sample size is not permitted.

A longitudinal study, in which time is a critical variable, is permitted but the original data from previous years cannot be presented only the comparison between years.

REMINDER: All changes in the forms as stipulated in the approved handbook and ISEF Forms must be followed by all participants. Kindly check this link: <https://tinyurl.com/2025-ISEF-FORMS>.





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Enclosure No. 8 to Division Memorandum No. ____, s. 2024

TUKLAS-SRC REVIEW AND RECOMMENDATION REPORT

Project _____

Title: _____

Fair Division: Life Physical/Applied Robotics & Intelligent Machines
 Mathematics and Computational Science

Category: Individual Team

Instruction: Please put a check [X] in the appropriate column and if necessary, write recommendations in the space provided.

PART 1: REQUIRED FORMS FOR ALL RESEARCHES	Complete	Incomplete	Recommendations
1. Checklist for Adult Sponsor (1) Is it accomplished and signed?			
2. Student Checklist (1A) Is it accomplished and signed?			
If answer to item 5 is Yes , must also have Form 7 (See Part II, item 13 below)			
If answer to item 7 is Research Institution or Other , must also have Form IC (see Part II, item 6 below)			
3. Research Plan (Attachment to item 2, above). Does it include the following?			
A. RATIONALE: Does it include a brief synopsis of background that supports the research problem and explains why the research is important scientifically? If applicable, does it explain the societal impact of the research?			
B. HYPOTHESIS(ES), RESEARCH QUESTION(S), ENGINEERING GOAL(S), EXPECTED OUTCOMES. Is this based on RATIONALE?			
C. RESEARCH METHODS AND CONCLUSIONS			
a. Procedures			
i. Does it show all procedures and experimental designs, including methods for data collection?			
ii. There should be NO inclusion of work of mentor or others.			
iii. Parameters should NOT be too strict to allow possible changes.			
b. Risk and Safety			
Does it identify all potential risks and safety precautions needed?			
c. Data Analysis			
i. Does it describe all procedures for data analysis?			





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ii. Parameters should NOT be too strict to allow possible changes			
D. BIBLIOGRAPHY Does it have at least 5 major references? If using vertebrate animals, include 1 reference on animal care (American Psychological Association)			
Note: Items 3.E-H are needed ONLY for researches on HUMAN PARTICIPANTS, VERTEBRATE ANIMALS, POTENTIALLY HAZARDOUS BIOLOGICAL AGENTS (see attached Research Plan/Project Summary Instructions)			
E. HUMAN PARTICIPANTS RESEARCH Does it provide the following? a. Description b. Recruitment c. Methods d. Risk Assessment e. Protection of Privacy f. Informed Consent Process			
F. VERTEBRATE ANIMAL RESEARCH Does it provide for the following? a. Potential ALTERNATIVES to vertebrate animal used b. Potential Impact or contribution of research c. Detailed procedures d. Detail on animal numbers, strain, sex, age, source, etc. e. Describe housing and oversight of daily care f. Disposition of animals at study termination			
G. POTENTIALLY HAZARDOUS BIOLOGICAL AGENT RESEARCH Does it provide for the following? a. Biosafety Level (BSL) Assessment & determination b. Source of agent, specific cell line c. Safety precautions d. Methods of disposal			
H. HAZARDOUS CHEMICALS, ACTIVITIES & DEVICES Does it provide for the following? a. Risk Assessment process & results b. Chemical concentrations and drug dosages c. Safety precautions and procedures to minimize risks d. Methods of disposal			
4. Approval Form 1B (for ALL students)			
5. Abstract			





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VERY IMPORTANT 2: See Part II, Risk Assessment (3) for			
<ol style="list-style-type: none"> 1. Studies involving protists, archaea, and similar microorganisms 2. Research using manure for composting, fuel production, or other non-culturing experiments 3. Commercially-available color change coliform water test kits. These kits must remain sealed and must be properly disposed. 4. Studies involving decomposition of vertebrate organisms (such as forensic projects). 5. Studies with microbial fuel cells. 			
PART 2: ADDITIONAL REQUIRED FORMS	Complete	Incomplete	Recommendations
6. Regulated Research Institutional or Industrial Setting Form (1C) Must be completed AFTER experimentation by the adult supervising the student research conducted in a regulated research institution or any work site aside from home, school or field. Is it properly accomplished and signed by the DESIGNATED SUPERVISING ADULT?			
7. Qualified Scientist Form (2) For researches with human participants, vertebrate animals, potentially hazardous biological agents, DEA-controlled substances; completed and signed BEFORE start of experimentation. Is it properly accomplished and signed by QUALIFIED SCIENTIST?			
8. Risk Assessment Form (3) For researches using hazardous chemicals, activities or devices and microorganisms exempt from pre-approval. Must be completed BEFORE Experimentation. Is It properly accomplished and signed by DESIGNATED SUPERVISING ADULT OR QUALIFIED SCIENTIST (when applicable)			
9. Human Participants Form (4) For researches involving human participants not at a Regulated Research Institution. Did the DESIGNATED ADULT SUPERVISOR/ INSTITUTION approve the research BEFORE experimentation?			
10. Vertebrate Animal Form (5A) For researches involving vertebrate animals that is conducted in a school/home/field research site <ol style="list-style-type: none"> A. Is it properly accomplished, approved and signed by SRC BEFORE experimentation? B. Is it properly accomplished, approved and signed by DESIGNATED VETERINARIAN BEFORE experimentation? C. Is it properly accomplished, approved and signed by DESIGNATED SUPERVISOR OR QUALIFIED SCIENTIST (as applicable) BEFORE experimentation? 			



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<p>11. Vertebrate Animal Form (5B) For researches involving vertebrate animals that is conducted at a Regulated Research Institution</p> <p>A. Does it have Institutional Animal Care and Use Committee (IACUC) approval BEFORE experimentation?</p> <p>B. Is it properly accomplished, approved and signed by a QUALIFIED SCIENTIST/PRINCIPAL INVESTIGATOR?</p>			
<p>12. Potentially Hazardous Biological Agents Risk Assessment Form (6A) For researches 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.</p> <p>A. Does it have SRC/IACUC/Institutional Biosafety Committee (IBC) approval BEFORE experimentation?</p> <p>B. Is it properly accomplished, approved and signed by a QUALIFIED or DESIGNATED SUPERVISOR BEFORE experimentation?</p> <p>C. Is it properly accomplished, approved and signed by the SRC BEFORE experimentation?</p>			
<p>13. Human Vertebrate Animal Tissue Form (6B) For researches 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 research involves living organisms, ensure that proper human or animal forms are completed. All researches using any tissue listed above must also complete Form 6A. Is it properly accomplished, approved and signed by a QUALIFIED or DESIGNATED SUPERVISOR BEFORE experimentation?</p>			
<p>14. Continuation/Research Progression Projects Form (7) For researches that are a continuation/progression in the same field of study as a previous research.</p> <p>A. This form MUST be accompanied by the PREVIOUS YEAR'S ABSTRACT AND RESEARCH PLAN.</p> <p>B. Is it properly accomplished, approved and signed by the student/s?</p>			
<p>PART 3: RESEARCH PAPER (See attached IMRAD Format)</p>			
<p>1. COVER PAGE A. Is the research title present?</p>			





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B. Is/are the name/s of the student proponent's present? C. Is/Are the appropriate persons credited? (The Research adviser and Research Consultants, if applicable MUST be present)			
2. INTRODUCTION Does it outline the research question and its significance within the topic discussed, making its relevance clear to readers in a CONCISE manner?			
3. METHOD Does it clearly and comprehensively provide the reader with a description of methods used in the research?			
4. RESULTS Does it clearly and comprehensively SHOW the reader what the research came up with? This should be the MAIN section of the paper.			
5. DISCUSSION Does this show what the findings in "RESULTS" mean?			
6. LIMITATIONS ON THE RESEARCH DESIGN AND MATERIAL Does this show knowledge and understanding or research limitations?			
7. CONCLUSION, NOTES, WORKS CITED AND APPENDICES/BIBLIOGRAPHY A. Does the conclusion briefly and clearly analyze what the paper proposed, discussed and concluded? B. Is there in (APA format) possible Researcher Notes, the research paper's Work Cited and possible appendices?			
PART 4: RESEARCH ABSTRACT (MAX. 250 WORDS)	Complete	Incomplete	Recommendations
1. Does it clearly and concisely state the PURPOSE of the RESEARCH?			
2. Does it clearly and concisely state the PROCEDURE/S undertaken in the RESEARCH?			
3. Does it clearly and concisely state the DATA COLLECTED from the RESEARCH?			
4. Does it clearly and concisely state the CONCLUSIONS of the RESEARCH?			
VERY IMPORTANT: There should be NONE of the following:			
<ul style="list-style-type: none"> a. Acknowledgements of the research institutions and/or mentors with which the students were working b. Self-promotions and external endorsements 			





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c. Inclusion of work or procedures done by the mentor			
PART 5: RESEARCH LOGBOOK	Complete	Incomplete	Recommendations
1. Is the logbook intact and not tampered with? It should NOT be loose-leafed.			
2. Does the START DATE in the logbook match the START DATE in the Student Checklist (1A)?			
3. Does the END DATE in the logbook match the END DATE in the Student Checklist (1A)?			
4. Are all entries in the logbook properly dated?			
5. Does the logbook show accurate and detailed notes and findings throughout the course of the research? Does it include the data tables, and the like?			
6. Does the logbook show an accurate and detailed description of procedures and processes conducted in the course of the research?			
7. Does the logbook show student notes and questions in the course of the research?			

Qualified

Disqualified

Reviewed by: _____

Date: _____

Reason/s for disqualification:





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Enclosure No. 9 to Division Memorandum No. ____, s. 2024

FORMAT OF DATA AND REPORT FOR SUBMISSION AFTER SCHOOL SCIENCE AND TECHNOLOGY FAIR

FORMAT OF DATA 1 (For the List of All Schools Participated in the Division Level)
(to be used in the official endorsement of the school to division and division to region)

School:

Division Fair: Life Science Physical Science Robotics an

No.	First Name	Middle Name	Last Name	Grade Level	School Name	Gender	Team/ Individual	Team Code	Research Adviser





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Enclosure No. 10 of Division Memorandum No. ____, s. 2024

DIVISION SCIENCE AND TECHNOLOGY FAIR (RSTF) 2024

Color and Letter-Number Codes for the Different Contest Categories
 (for coding of hard copies and USBs of the soft copies of the manuscripts/paper reports for the different contest categories)

School Code	CONTEST CATEGORY CODE & COLOR OF THE SIDE AND BACK COVER					
	Life Science (LS)		Physical Science (PS)		Robotics & Intelligent Machines (RIM)	
	Individual Green	Team Yellow	Individual Blue	Team Orange	Individual Pink	Team Brown
ACNHS-01	LS-I-SDO14-01	LS-T-SDO14-01	PS-I-SDO14-01	PS-T-SDO14-01	RIM-I-SDO14-01	RIM-T-SDO14-01
ACSCI-02	LS-I-SDO14-02	LS-T-SDO14-02	PS-I-SDO14-02	PS-T-SDO14-02	RIM-I-SDO14-02	RIM-T-SDO14-02
FGNMHS-03	LS-I-SDO14-03	LS-T-SDO14-03	PS-I-SDO14-03	PS-T-SDO14-03	RIM-I-SDO14-03	RIM-T-SDO14-03
Regular High School-Public- 04	LS-I-SDO14-04	LS-T-SDO14-04	PS-I-SDO14-04	PS-T-SDO14-04	RIM-I-SDO14-04	RIM-T-SDO14-04
Secondary Schools-Private-05	LS-I-SDO14-05	LS-T-SDO14-05	PS-I-SDO14-05	PS-T-SDO14-05	RIM-I-SDO14-05	RIM-T-SDO14-05

School Code	CONTEST CATEGORY CODE & COLOR OF THE SIDE AND BACK COVER			
	Mathematics and Computational Science (MCS)		Science Innovation Expo (SIE)	
	Individual Red	Team Purple	Individual Light Blue	Team Dark Blue
ACNHS-01	MCS-I-SDO14-01	MCS-T-SDO14-01	SIE-I-SDO14-01	SIE-T-SDO14-01
ACSCI-02	MCS-I-SDO14-02	MCS-T-SDO14-02	SIE-I-SDO14-02	SIE-T-SDO14-02
FGNMHS-03	MCS-I-SDO14-03	MCS-T-SDO14-03	SIE-I-SDO14-03	SIE-T-SDO14-03
Regular Public Secondary Schools- 04	MCS-I-SDO14-04	MCS-T-SDO14-04	SIE-I-SDO14-04	SIE-T-SDO14-04
Private Secondary Schools- -05	MCS-I-SDO14-05	MCS-T-SDO14-05	SIE-I-SDO14-05	SIE-T-SDO14-05

