



Republic of the Philippines
Department of Education
REGION XI
SCHOOLS DIVISION OF DIGOS CITY

Office of the Schools Division Superintendent

DIVISION MEMORANDUM

CID-2023- 505

To : CID Chief
EPS in Science and Mathematics
School Heads/Principals
Public Secondary Schools

Subject : **REGIONAL SCIENCE AND TECHNOLOGY FAIR FOR SCHOOL YEAR 2023-2024**

Date : November 28, 2023

In reference to Regional Memorandum CLMD-2023-775 dated November 24, 2023, DepEd RO XI will conduct the Regional Science and Technology Fair (RSTF) for the School Year 2023-2024 with the theme, "Rebuilding Resilient Communities: Embracing Science and Technology for a Sustainable Future" on December 6-7, 2023 at Daniel R. Aguinaldo National High School, Matina, Davao City.

The participants to this activity are the winners in the Division Science and Technology Fair, to wit:

Event	Student-Participants	Coach	School
LS-I	Shastina Ros F. Sampaga	Vienna Shiela Jemafe M. Encarnacion	DICNHS
LS-T	Ma. Niña Jerricka D. Alviola Precious Lyka M. Caspe Dominique Kimber D. Quisumbing	Maricris T. Rosete	DICNHS
LS-T	Rheon Juvelle R. Dela Cruz Razhella S. Fabian Jans Alyssa S. Jumawan	Donna S. Nerona	DICNHS
PS-I	Maria Margarette D. Saban	Jean W. Hernan	DICNHS
PS-T	John Aaron C. Pastias Christine Rhian G. Pigon Faith Vince Jamille C. Sagarino	Aileen Joy M. Sanchez	DICNHS
RIM-I	Mary Sharachelle P. Agar	Kim G. Dela Cruz	DICNHS
RIM-I	Psalm R. Pancho	Kim G. Dela Cruz	DICNHS
RIM-T	Fatima Yashmin O. Jaitoni Mhia Kaye S. Perez Robie Myles S. Tolentino	Kim G. Dela Cruz	DICNHS
MCS-I	Princess Shanley C. Salinas	Eileen V. Artiaga	DICNHS
MCS-T	Rj Justine G. Bugador Van Angela B. Granada Angela F. Lubay	Glent Ian T. Delima	DICNHS



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In addition, the following Division Personnel and teachers are directed to attend in the event to observe the event and provide support to the Division delegation:

1. Basilio P. Mana-ay Jr, CESO VI, ASDS
2. Beverly S. Daugdaug, EdD, CID Chief
3. Luzminda B. Jasmin, EPS-Science
4. Jem Boy B. Cabrella, PhD, EPS – Mathematics
5. Jernalyn Castro, MT II, OIC, Math Department Head, DICNHS, Observer
6. Lalaine Mortalla, MT II, OIC, Science Department Head, DICNHS, Observer
7. Maricel A. Manceras, MT I, DICNHS, Observer
8. Francis Philip Deluao, SST 1, SHSDC, Observer
9. Kirt Allen Florida, SST I, Matti NHS, Observer
10. Felix Ray R. Dumagan, T I, Kapatagan NHS, Observer

The school heads are directed to make the necessary arrangements to ensure that classes of teacher-participants shall be taken care of.

Lunch and two snacks of the student-coach participants on December 7, 2023 shall be charged against regional and downloaded funds while travelling, accommodation and other incidental expenses shall be charged against local funds. On the other hand, accommodation, travelling, meals, and other incidental expenses of other official participants shall be charged against local funds, all subject to the usual accounting and auditing rules and regulations.

The timeline and guidelines for the event are in the enclosure.

For information, guidance and compliance.

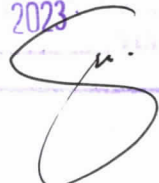
For and in the absence of the SDS:

FRANCIS JUDE D. ALCOMENDRAS, JD
Administrative Officer V
Officer-in-Charge

Enclosed: As stated.

CID/lbj

DepEd Schools Division of Digos City
RECORDS SECTION

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DATE: 29 NOV 2023 8:32
BY: 



Records



Republic of the Philippines
Department of Education
DAVAO REGION

DepEd Schools Division of Digos City
RECORDS SECTION

112832
DATE: 28 NOV 2023 TIME: 1:05
BY: [Signature]

Office of the Regional Director

REGIONAL MEMORANDUM
CLMD-2023-775

To : Schools Division Superintendents

Subject: REGIONAL SCIENCE AND TECHNOLOGY FAIR FOR SCHOOL
YEAR 2023-2024

Date : November 24, 2023

This Office announces the conduct of a Regional Science and Technology Fair (RSTF) for School Year (SY) 2023-2024 with the theme "Rebuilding Resilient Communities: Embracing Science and Technology for a Sustainable Future" on December 6-7, 2023 at Daniel R. Aguinaldo National High School, Matina, Davao City.

The official participants from each division at the Regional Level Science and Technology Fair shall only be the Top 2 Division Winners in each category whose entries have been approved by the regional-level Scientific Review Committee (SRC). Substitutes shall not be allowed. The description and the maximum number of official participants are the following:

I. Maximum Number of Student and Coach Participants per Division

Categories	Number of Students together with Coaches per Division				TOTAL
	Individual (1*2)	Coach (1*2)	Team (3*2)	Coach (1*2)	
Life Science Category	2	2	6	2	12
Physical Science Category	2	2	6	2	12
Robotics and Intelligent Machines Category	2	2	6	2	12
Mathematics and Computational Science Category	2	2	6	2	12
National Science Innovation Expo	2	2	6	2	12
TOTAL	10	10	30	10	60



Address: F. Torres St., Davao City (8000)
Telephone Nos.: (082) 291-1665; (082) 221-6147

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Republic of the Philippines
Department of Education
DAVAO REGION

Office of the Regional Director

II. Officials Party and Observers per Division

Maximum Number of Officials and Observers Party per Division	Number of Pax
Schools Division Superintendents	1
Assistant Schools Division Superintendent	1
Chief, Curriculum Implementation Division	1
Division Science Supervisors	1
Division Mathematics Supervisors	1
Observers	10
TOTAL	15

III. Regional Office XI Participants, Judge Members of the Screening Review Committee(SRC), and Members of the Technical Working Group (TWG)

Maximum Number of RO XI Participants and	Number of Pax
Regional Director	1
Assistant Schools Division Superintendent	1
Chief, Curriculum Implementation Division	1
CLMD Supervisors	8
Judge	1
Members of the regional-level SRC	12
Members of the TWG	4
TOTAL	28

List of the TWG, program of activities, guidelines, and other reminders of the activity are in the enclosures.

Lunch and two snacks of the student-coach participants, judges, members of the screening committee and technical working group on December 7, 2023 shall be charged against regional and downloaded funds while travelling, accommodation and other incidental expenses shall be charged against local funds. On the other hand, accommodation, travelling, meals, and other incidental expenses of other official participants shall be charged against local funds, all subject to the usual accounting and auditing rules and regulations.

Immediate dissemination of this Memorandum is desired.

DEPARTMENT OF EDUCATION
RECORDS SECTION
RELEASED

ALLAN G. FARNAZO
Director IV

Enclosed: As stated
ROC2/mlib

Bv: 6

Nov. 28, 2023

260K



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DAVAO REGION

Office of the Regional Director

Enclosure

Regional Science and Technology Fair (RSTF) 2023-2024 Timeline

Activity	Date and Schedule
Planning Conference with Science Supervisors	November 28, 2023 at 9:00 PM, via online platform
Pre-Planning Conference with the TWG	November 28, 2023 at 2:00 PM, via online platform
Submission of Top 2 Entries per category and per division with complete attachment	November 29-December 2, 2023 at the CLMD Office
Screening of submitted entries	December 2-4, 2023
Finalization of the qualified entries	December 5, 2023
Submission of Entries to the Judges	December 5-6, 2023
Conduct the Technical Run and Hall Preparation by all the Members of the TWG Putting up of Research Exhibit by the Student-Coach Participants	December 6, 2023
Regional Science and Technology Fair Culmination Program and Awarding Ceremony	December 7, 2023
Post Conference with the winning entries and TWG	December 7, 2023
Critiquing of the winning entries	December 11-15, 2023
Finalization of the attachments of the entries	December 18-19, 2023
Submission of entries to the NSTF	December 20, 2023



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Republic of the Philippines
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DAVAO REGION

Office of the Regional Director

Members of the Regional Technical Working Committee

No	Name	Station	TOR
1.	Maria Liza I. Berandoy	DepEd RO XI - CLMD	Overall – Supervising Chairperson
2.	Herminia A. Bantiding	DepEd RO XI - CLMD	Overall – Supervising Co-Chairperson
3.	Justin Brylle C. Villarias	DepEd RO XI - RDO	Official Documenter , Lay-outing, AVP Presentations, and other related tasks
4.	Anna Marie G. Cadalzo	DepEd RO XI - CLMD	Staff and other related tasks
5.	Napdeo Natka E. Natad	DRANNHS	Program, Invitation, Certificates, Hall Preparation, Co-Production Committee Chair, and other related tasks
6.	Jim Boy P. Pasia	DRANHS	Terminal Report and other related tasks
7.	Brylee A. Cadigal	TFNHS	Attendance, logistics, and other related tasks
8.	Sherwin S. Fortugaliza	DCNHS	RSRC- Life Science, and other related tasks
9.	Suzette A. Bermejo	DRANHS	RSRC – Life Science, and other related tasks
10.	Ivy F. Solano	PNHS	RSRC – Physical Science, Leis, and other related tasks
11.	Henry F. Haranay	TCNHS	RSRC – Robotics and Intelligent Machines, and other related tasks
12.	Ritchie Liguid	MNHS	RSRC – Physical Science, and other related tasks
13.	Rogar Garcia	FBNHS	Judges, logistics, floor director, and other related tasks
14.	Jeffrey A. Sauro	DRANHS	Production Committee Chair
15.	Edmundo P. Abueva	DRANHS	Logistics, tarpaulin, medals, and other related tasks
16.	Gidelyn Love I. Lobino	CNHS	Production Committee Member, co-floor director, and other related tasks



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Republic of the Philippines
Department of Education

DepEd MEMORANDUM
No. , s. 2023

NATIONAL SCIENCE AND TECHNOLOGY FAIR FOR SCHOOL YEAR 2023-2024

To: Undersecretaries
Assistant Secretaries
Minister of Basic, Higher, and Technical Education, BARMM
Bureau and Service Directors
Regional Directors
Schools Division Superintendents
Public and Private Elementary and Secondary School Heads
All Others Concerned

1. The Department of Education (DepEd) deeply values the Science and Technology Fair's pivotal role in shaping the learners' holistic development. This event integrates the cultivation of crucial research skills such as critical thinking, problem-solving, and the stimulation of innovation and creativity. These competencies not only propel academic success but also prepare the students for excellence in their future academic pursuits and careers. The theme, **Rebuilding Resilient Communities: Embracing Science and Technology for a Sustainable Future**, reinforces the Department's commitment to these objectives.
2. DepEd announces the conduct of the **National Science and Technology Fair (NSTF) for School Year (SY) 2023-2024** from March 11 to 15, 2024 at a venue to be announced later. The conduct of regional Science and Technology Fair (STF) shall be held from November to December 2023.
3. The official participants from each region at the National Level Science and Technology Fair shall only be the Rank 1 Regional Winners in each category whose entries have been approved by the national-level Scientific Review Committee (SRC). Substitutes shall not be allowed. The description and the maximum number of official participants are the following:

Maximum Number of Student Participants per Region	
Life Science Category (4)	
Individual	1
Team	Maximum of 3
Physical Science Category (4)	
Individual	1
Team	Maximum of 3
Robotics and Intelligent Machines Category (4)	
Individual	1
Team	Maximum of 3

Mathematics and Computational Science Category (4)	
Individual	1
Team	Maximum of 3
National Science Innovation Expo (4)	
Individual	1
Team	Maximum of 3
Total	20

4. The number of other Official Party members is as follows:

Maximum Number of Other Official Party per Region	
Regional Director	1
Assistant Regional Director	1
Chief Education Supervisor	1
Regional EPS-Science	1
Regional EPS-Math	1
Observers (one for every five student finalists)	4*

*Observer slots may be given to the research adviser/s of the student-finalist/s or Division Math/Science Education Program Supervisors.

5. The travel expenses of participants in the national level STF shall be charged to local funds or other sources; whereas, the expenses of the Central Office personnel, board and lodging of the Technical Working Group and official participants, materials, transportation, and communication relative to the activities, prizes, and cash awards, and honoraria of members of the SRC, Board of Judges (BOJ), and external or non-DepEd resource persons shall be charged to the Bureau of Curriculum Development (BCD) Fund, subject to the usual accounting and auditing rules and regulations.

6. The guidelines, standards, parameters, and process stipulated in the School Science and Technology Fair (SSTF), Division Science and Technology Fair (DSTF), Regional Science and Technology Fair (RSTF), and National Science and Technology Fair (NSTF) Handbook shall guide student researchers, teachers, school heads, Division and Regional Math and Science Supervisors, Chief Education Program Supervisors, Schools Division Superintendents, and Regional Directors in implementing and organizing Science and Technology Fairs. It is strongly encouraged that the school-level STF be participated by all students.

7. Regional and Division Level Math and Science Supervisors or assigned Focal Persons under the Curriculum Learning Management Division and/or the Curriculum Implementation Division shall lead the conduct of the school, division, and regional level Science and Technology Fair respectively.

8. The Regional Math and Science Supervisors are requested to submit to BCD, through the email address nstf@deped.gov.ph, the reports using the format found in the handbook on or before **December 20, 2023**. Failure to submit the report and projects on time shall **disqualify** the region from participating in the national fair.

9. For more information, please contact the **Bureau of Curriculum Development-Curriculum Standards Development Division**, 3rd Floor Bonifacio Building, DepEd Central Office, DepEd Complex, Meralco Avenue, Pasig City through email at bcd.od@deped.gov.ph or telephone number at (02) 8632-7746.

✓

10. Immediate dissemination of this Memorandum is desired.

By Authority of the Secretary:


GINA O. GORONG
Undersecretary

Reference:

DepEd Memorandum No. 038, s. 2022

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

CELEBRATIONS AND FESTIVALS
CONTESTS
LEARNERS
LEARNING AREA, SCIENCE
SCHOOLS
STUDENTS

MCDJ, APA, MPC, DM NSTF SY 2023-2024
0544 - September 7, 2023

Enclosure

Excerpt from the advanced copy of the Handbook for the conduct of Science Fairs by the DepEd Central Office

Important reminders:

1. The name of the event is TUKLAS (A research Project Fair) with four categories – Life Science, Physical Science, Robotics and Intelligent Machines, and Mathematics and Computational Science.
2. The Innovation Expo or GAWAD AgLiTekno is a separate event which 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 environment.
3. Submit three (3) soft bounded hard copies of color-coded manuscripts and digital copies of the research project.
4. Submit one (1) minute video presentation for division shoutout.
5. Follow the prescribe labelling of entries including the color coding.
6. For the conduct of the RSTF, the size of the display board is 1m x 1.5m. Tarpaulins will not be used in any level of Science Fair competition in support of the environmental advocacy of the government in reducing the consumption of nonbiodegradable or non-recyclable materials.
7. Student researchers shall be in their smart casual during the conduct of RSTF.



SCHOOL, DIVISION, REGIONAL, AND NATIONAL SCIENCE AND TECHNOLOGY FAIR GUIDEBOOK

FIRST EDITION | AUGUST 2023

FAIR FEATURES

TUKLAS

A Research Project Fair

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/or real-world problems, issues, and concerns.

INNOVATION EXPO

GAWAD AgLiTekno

A Technology Innovation competition which 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 environment.

STEM ACADEMY

A conference designed to provide the participants with learning opportunities and experiences through various talks promoting innovation, creativity, and excellence in the fields of STEM.

AGHAMBAYANIJUAN

A public community exhibition showcasing the partners in STEM Research and Innovation and their latest innovative products, technologies, and services offered to different sectors of the community.

A STEP-BY-STEP GUIDE TO STEM RESEARCH INVESTIGATION

- 1** Choose an area of interest or problem to solve through STEM research.
- 2** Gather relevant information to better understand the topic's impact.
- 3** Identify research gaps and ways to address limitations of previous solutions.
- 4** Develop specific research questions and variables.
- 5** Formulate hypotheses and predict expected outcomes.
- 6** Choose appropriate and ethical research methodologies.
- 7** Write a project plan with the help of an adviser or PROJECT consultant.
- 8** Keep a data logbook to record activities, procedures, literature, raw data, and correspondence.
- 9** Check the availability of resources, facilities, equipment, and experts.
- 10** Communicate with regulated research institutions and qualified scientists for technical assistance.
- 11** Obtain necessary permits for research involving humans, animals, chemicals, and other biological agents.
- 12** Conduct experiments, observe, measure, and record data.
- 13** Organize and present data in tables and/or graphs.
- 14** Analyze data, draw conclusions, and align with research questions and hypotheses.
- 15** Explain data trends and compare results with previous studies.
- 16** Discuss implications of results and recommend future studies to expand investigations.

Note: MIM projects need not follow the suggested steps.

SCHOOL, DIVISION, REGIONAL, AND NATIONAL SCIENCE AND TECHNOLOGY FAIR GUIDEBOOK

CONTEST MECHANICS

TUKLAS

A Research Project Fair

ELIGIBILITY

- ✓ The competition is open to Grades 9-12 learners of both public and private high schools in the Philippines who have not reached the age of 20 on or before May 1 of the current school year.
- ✓ Learners may work individually or in teams with 2-3 members from the same school. Each learner is only allowed to submit one (1) research project in one (1) of the four (4) research categories: Life Science, Physical Science, Robotics and Intelligent Machines, and Mathematics and Computational Sciences. The project should include no more than 12 months of continuous research and should not include research activities performed before January of the previous school year. (e.g., For school year 2023-2024 with the target opening of classes on August 2023 and ISEF on May 2024, research projects may be accomplished within 1-12 month/s starting from January 2023 to January 2024).
- ✓ The top three (3) winners in each category of TUKLAS will be screened by the division Scientific Review Committee (SRC) and qualifiers will advance to the Division Science and Technology Fair (DSTF).
- ✓ First placers in each category in the Regional Science and Technology Fair (RSTF) will be screened by the national SRC. The qualifiers will advance to the National Science and Technology Fair (NSTF).
- ✓ First and second placers in each category in the Regional Science and Technology Fair (RSTF) will be screened by the national SRC. The qualifiers will advance to the National Science and Technology Fair (NSTF).

RESEARCH CATEGORIES

The STEM research competition is divided into four (4) categories. The student researchers and advisor should carefully consider which category best describes the research project. They may enter the competition as an individual or as a team.



Life Science

This category deals with living organisms such as plants, microorganisms, and animals including humans and their life processes. Projects that involve systematic observation, development, experimentation, and understanding of living things and biological processes belong to this category. Subcategories include Animal Sciences, Biomedical and Health Sciences, Cellular and Molecular Biology, Microbiology, Plant Sciences, and Translational Medical Science.

Physical Science

This category deals with the nature and properties of non-living matter, energy and systems. Projects that involve systematic observation, development, experimentation, and understanding of materials and phenomena belong to this category. Subcategories include Astronomy, Chemistry, Earth and Environmental Sciences, Energy, Engineering Technology, Statics and Dynamics, Sustainable Materials and Design, Environmental Engineering, Materials Science, and Physics.

Robotics and Intelligent Machines

This category deals with the design, implementation, and use of prime technologies and machine intelligence in providing a wide range of innovative solutions and

advancements across multiple disciplines to reduce reliance on human intervention. Subcategories include Biomechanics, Cognitive Systems, Control Theory, Machine Learning, and Robot Kinematics.

Mathematics and Computational Science

Mathematics deals with the measurement, properties, and relationships of quantities and sets using numbers and symbols. Subcategories include Algebra, Analysis, Combinatorics, Graph Theory, Game Theory, Geometry and Topology, Number Theory, and Probability and Statistics.

Computational Science deals with the development and implementation of mathematical models and simulations to understand natural systems and processes, and solve STEM problems using computers. Subcategories include Computational Biology and Bioinformatics, Computational Chemistry, Computational Mechanics, and Theoretical, Computational and Quantum Physics.

Note: For the full description of the sub-categories, visit the official website of ISEF category selection and sample project titles.

GENERAL PROCEDURES AND GUIDELINES

A. School Level Science & Technology Fair (SSTF)

Before:

- 1 Orientation of learners regarding the processes and guidelines in planning and conducting STEM investigations.
- 2 Identification of the school level Scientific Review Committee (SRC) which will evaluate project proposals, required forms, certifications/pre-approvals, data logbooks, and research manuscripts. Orientation of SRC members regarding the national laws, safety and ethical considerations, and the rules and regulations set by NSTF and ISEF needed to be adhered in conducting STEM research project.
- 3 Writing of the research proposal and completion of the data logbook entries for the planning of the project.
- 4 Identification of the research category that best describes the project and presentation of research proposals for further revision and approval.
- 5 Orientation and agreements with parents/guardians on the responsibilities of learners and supervisory adults in the specific arrangements during the research activity engagement.
- 6 Communication with the preselected qualified scientist/designated supervisor and Regulated Research Institution (RRI).
- 7 Submission of Memorandum of Agreement/Understanding and other documentary requirements (if applicable) to the research institution prior to experimentation.
- 8 Completion of the required ISEF forms and certifications/pre-approvals before experimentation.
- 9 Conduct of the research and completion of required ISEF forms and data logbook entries for the accomplished research activities.
- 10 Writing of research manuscript and preparation for project display and oral defense.
- 11 Meeting of the department head/chairman and Technical Working Group (TWG) for the planning of the conduct of the School Science and Technology Fair (SSTF).
- 12 Issuance of school memorandum regarding the conduct of SSTF which includes the mechanics, guidelines, criteria, schedule of activities, and TWG anchored on the Division, Region and National Science and Technology Fair Memorandum.
- 13 Signing of non-disclosure agreements with the adult sponsor, SRC and TWG members.
- 14 Submission of three (3) hard and digital copies of properly color-coded and sequenced (as indicated in the memorandum) manuscripts, ISEF forms, data logbook, and other entry requirements (student media release forms, project evaluation forms, medical certificate, etc.) to the TWG on or before the deadline.
- 15 Forwarding of submitted manuscripts to the SRC/Board of Judges (BOJ) for project pre-evaluation guided by the attached criteria.
- 16 Issuance of school memorandum regarding the results of the SRC review and the list of qualifiers for the SSTF and final judging.
- 17 Returning of the qualified SSTF manuscripts and other entry requirements for further revisions based on the listed comments and suggestions by the SRC in the Review and Recommendation Report (RRR).
- 18 Final meeting of the TWG for the preparations needed for the conduct of the SSTF.
- 19 Online resubmission of the digital copies of manuscripts, other entry requirements and PowerPoint presentation for the STEM Congress to SSTF focal person.

During

- 1 Registration of participants and submission of the three (3) softbound hard copies of color-coded manuscripts with tags to identify the revisions done based in the RRR.
- 2 It is also suggested for the student researchers to be in their smart casual during the conduct of SSTF.
- 3 Set-up for the project display that conforms with the display and safety regulations.
- 4 Project Display inspection by the assigned TWGs to ensure adherence to the prescribed project display rules and guidelines.
- 5 Conduct of the SSTF opening program and on-site judging of the entries.
- 6 SRC/BOJ final evaluation of the qualified research entries through the STEM Congress.
- 7 Deliberation of the SRC/BOJ and awarding of the Top 5 winners for the individual and team projects in each research category. Other special awards (e.g., Best Poster, Best Presenter/s, Peers' Choice Award, Best Shoutout) and sponsored honorable awards by institutions/organizations may also be given to learners and advisors.
- 8 Orientation of the student researchers and advisors of the Top 3 entries for the individual and team projects in each research category for further comments, suggestions and other preparations needed as school representatives to the Division Science and Technology Fair (DSTF).

After

- 1 Issuance of school memorandum regarding the winners of the SSTF.
- 2 Final revision of the manuscripts and other entry requirements incorporating the recommendations by the SRC/BOJ.
- 3 Re-submission of the revised manuscripts and other entry requirements to the school SRC for final quality assurance.
- 4 Submission of the Top 3 Entries to the Division Level Science Fair Technical Working Group
- 5 Conduct of STEM cliniquing to improve learners' presentation skills and preparation of Poster Displays.

HOW TO CREATE A BIBLIOGRAPHY:

APA STYLE



1) GATHER YOUR SOURCES:

Collect all the sources you used in your research. This includes books, websites, articles, interviews, and more.

2) ARRANGE YOUR ENTRIES:

List your sources in alphabetical order by the author's last name. If there's no author, use the title of the source. For multiple sources by the same author, list them chronologically by publication date, starting with the oldest.



3) FORMAT YOUR ENTRIES:

Follow this general format for different types of sources:

Book: Author(s). (Year). Title of the book. Publisher.
Website: Author(s). (Year). Title of the webpage. URL.
Article: Author(s). (Year). Title of the article. Title of the Journal, Volume(issue), Page numbers.

Examples:

Book:

Smith, J. A. (2019). The World of Microorganisms. Science Publishers.

Website:

National Institute of Health. (2021). Introduction to Genetics. <https://www.nih.gov/genetics/intro-genetics>

Article:

Johnson, R. W., & Martinez, L. K. (2020). Exploring Renewable Energy Sources. *Journal of Environmental Science*, 45(3), 123-135.

4) REMEMBER IN-TEXT CITATIONS:

Whenever you use information from your sources in your project, include an in-text citation. This helps your readers find the original source in your bibliography.

For example:

- Parenthetical citation: (Grady et al., 2019)
- Narrative citation: Grady et al. (2019)



5) DOUBLE-CHECK YOUR ENTRIES:

Before finalizing your bibliography, ensure you've included all necessary details and that your entries are correctly formatted.

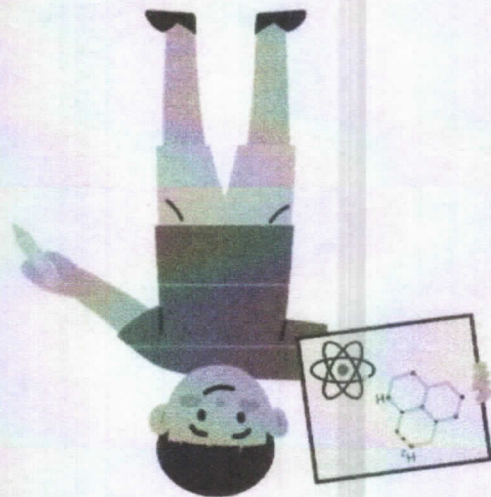
Remember, accurate and consistent citations are essential to give credit to authors and avoid plagiarism.

By following these steps and using the APA style, you'll create a well-organized and accurate bibliography that enhances the credibility of your science fair project.



Source: <http://apa.org>

- 1 Registration of the learner and teacher participants.
- 2 Submission of the division shoutout and three (3) softbound hard copies of color-coded manuscripts with tags to identify the revisions done based in the RRR. It is also suggested for the student researchers to be in their smart casual during the conduct of RSTF.
- 3 Set-up the project display that conforms with the display and safety regulations.
- 4 Project display inspection whereas the TWG may require learners to make revisions in the display boards in order to adhere to the prescribed rules and regulations.
- 5 Conduct of the RSTF opening program and on-site judging of the entries.
- 6 SRC/BOJ final evaluation of the qualified research entries through the STEM Congress.
- 7 Deliberation of the SRC/BOJ and awarding of the Top 5 Winners for the individual and team projects in each research category. Other special awards (e.g., Best Poster, Best Presenters, People's Choice Award, Peers' Choice Award, Best Digital Shoutout, Most Innovative Award) and sponsored honorable awards by institutions/organizations may also be given to learners and advisors.
- 8 Orientation of the student researchers and advisors of the Top 2 entries for the individual and team projects in each research category for further comments, suggestions, and other preparations needed as regional representatives to the NSTF.



- 1 Issuance of regional memorandum regarding the winners of the RSTF and the schedule of cliniquing/mentoring/coaching of the regional representatives to the NSTF pre-evaluation of research projects.
 - 2 Final revision of the manuscripts and other entry requirements by incorporating the recommendations of the SRC/BOJ.
 - 3 Improving learners' presentation skills through the conduct of mock STEM Congress.
 - 4 Re-submission of the revised manuscripts and other entry requirements to the regional SRC for the final quality assurance.
- D. National Level Science & Technology Fair**

- 1 Planning and consultation meeting spearheaded by the National Science and Technology Fair Focal Persons.
- 2 Identification of the national level SRC based on the criteria set by NSTF and ISEF. The national-level SRC will evaluate the research manuscripts, and data logbooks of the regional entries to the NSTF.
- 3 Orientation of SRC members regarding the national laws, safety and ethical considerations, and the rules and regulations set by NSTF and ISEF that need to be adhered to when conducting STEM investigations. Signing of non-disclosure agreements with the SRC members.
- 4 Signing of non-disclosure agreements with the SRC and TWG members.
- 5 Issuance of the national memorandum regarding the conduct of NSTF which includes the mechanics, guidelines, criteria, and schedule of activities.
- 6 Submission of the three (3) hard and digital copies of research manuscripts and other entry requirements of the Top 2 entries for the individual and team projects in each research category to the NSTF focal person with attached report of the conduct of RSTF and endorsement by the regional director on or before deadline.
- 7 Forwarding of submitted manuscripts to the SRC/BOJ for project pre-evaluation guided with the attached criteria and Review and RRR.
- 8 Issuance of national memorandum regarding the results of the SRC review and the list of qualifiers for the NSTF and final judging.
- 9 Meeting with the learners and advisors of the unqualified projects for the discussion of the disapproval/disqualification issues and their rights for an appeal period of three (3) days. An appeal can be requested by the student researcher and advisor through the submission of a letter for

C. Regional Level Science & Technology Fair

Before:

- 1 Planning and consultation meeting spearheaded by the Regional Education Program Supervisors (REPS) in Science and Math with the division EPSs in science and mathematics, and other members of the RTWG.
- 2 Identification of the regional level SRC based on the criteria set by NSTF and ISEF. The regional level SRC will evaluate the research manuscripts, required forms, certifications/pre-approvals, and data logbooks of the division entries to the Regional Science and Technology Fair (RSTF).
- 3 Orientation of SRC members regarding the national laws, safety and ethical considerations, and the rules and regulations set by NSTF and ISEF that needs to be adhered to when conducting STEM investigations. Signing of non-disclosure agreements with the SRC members.
- 4 Signing of non-disclosure agreements with the SRC and TWG members.
- 5 Issuance of the regional memorandum regarding the conduct of RSTF which includes the mechanics, guidelines, criteria, schedule of activities, and TWG.
- 6 Submission of the three (3) hard and digital copies of research manuscripts and other entry requirements of the Top 2 entries for the individual and team projects in each research category to the RSTF focal person with attached report of the conduct of DSTF and endorsement by the Schools Division Superintendent on or before deadline.
- 7 Forwarding of submitted manuscripts to the SRC/BOJ for project pre-evaluation guided with the attached criteria and RRR.
- 8 Issuance of regional memorandum regarding the results of the SRC review and the list of qualifiers for the RSTF and final judging.
- 9 Meeting with the learners and advisors of the unqualified projects for the discussion of the disapproval/disqualification issues and their rights for an appeal period of three (3) days. An appeal can be requested by the student researcher and advisor through the submission of a letter for reconsideration addressed to the SRC chairman explicitly stating the valid explanations to reconsider the disqualification of the entry.
- 10 Returning of the qualified RSTF manuscripts and other entry requirements for further revisions based on the listed comments and suggestions by the SRC in the RRR.
- 11 Final meeting of the TWG for the preparations needed for the conduct of the RSTF.
- 12 Preparation of the 1-minute video presentation for the division shoutout.
- 13 Online resubmission of the digital copies of manuscripts, other entry requirements and PowerPoint presentation for the STEM Congress to RSTF focal person with official endorsement by the division office to the regional office.
- 14 Online pre-registration of participants (optional).



**THE FOLLOWING REFERENCES ARE USED TO
SUPPORT THE AFOREMENTIONED GUIDELINES:**

**International Rules for Pre-College Science Research Guidelines for Science
and Engineering Fairs 2022–2023**
<https://sspcdn.blob.core.windows.net/files/Documents/SEP/ISEF/2023/Rules/Book.pdf>

Roles and Responsibilities of Students and Adults
<https://www.societyforscience.org/isef/international-rules/roles-and-responsibilities-of-students-and-adults/>

REGENERON ISEF - Rules Wizard
<https://ruleswizard.societyforscience.org>

Research Plan Templates
<https://www.societyforscience.org/isef/2021-resources/>

International Rules for Pre-Collegiate Research: Guideline for Science and Engineering
<https://sspcdn.blob.core.windows.net/files/Documents/SEP/ISEF/2023/Resources/Changes-to-International-Rules-2022-2023.pdf>

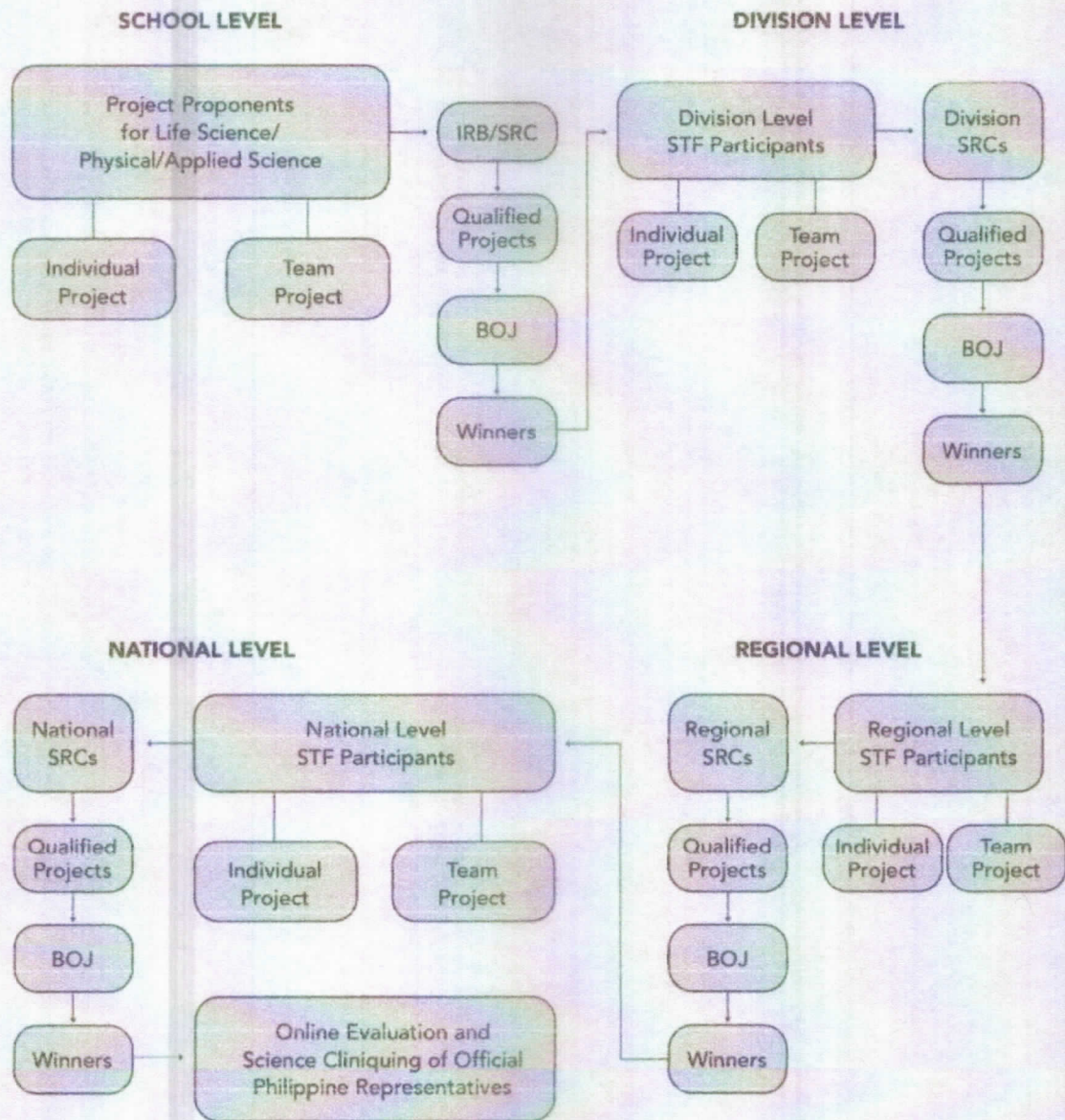
ISEF Overview of Forms and Dates
<https://www.societyforscience.org/isef/overview-of-forms-and-dates/>

Intel ISEF Affiliated Fair Judging Guidelines
<https://www.sefi.org/hsef/IntelISEF%20Judging%20Guidelines.pdf>

ISEF Grand Award Judging Criteria
<https://www.societyforscience.org/isef/grand-award/criteria/>

APPENDIX 1:

*Schematic Diagram of
the Flow of STF Activities*



DEPARTMENT OF EDUCATION

APPENDIX 2:

TUKLAS Research Paper Format

I. Research Plan:

This is to be written prior to 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 research manuscript.)

All projects 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 or Problem being addressed
- c Goals/Expected Outcomes/Hypotheses
- d Procedures: Detail all procedures and experimental design to be used for data collection.
- e Risk and Safety: Identify any potential risks and safety precautions needed.
- f Data Analysis: Examine, organize, and interpret data to answer research questions, or either accept or reject hypotheses.
- g 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 Logbook:

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 likes.

III. Research Paper Format:

Science Project

- 1 INTRODUCTION - What relevant background information supports your research problem/questions?
 - ✓ Explain what is known or has already been done in your research area. Include a brief review of relevant literature. If this is a continuation project, a brief summary of your prior research is appropriate here. Be sure to distinguish your previous work from this year's project.
 - ✓ Include a brief description on how your project will address an issue, concern or problem. Explain why this research is important and any societal impact of your research.

2 METHODS - What procedures were carried out for the experimentation?

- ✓ Explain in detail what you did. What data did you collect and how did you collect those data? Discuss your control group and the variables you tested.
- ✓ Discuss your control group, the variables you tested, and the statistical treatment used. Handling and disposal of wastes may be included if necessary.
- ✓ DO NOT include a list of materials.

3 RESULTS - What were the result(s) of your project?

- ✓ Include tables and figures which illustrate your data.
- ✓ Include relevant statistical analysis of the data.

4 DISCUSSION - What is your interpretation of these results?

- ✓ What do these results mean? Compare your results with theories, published data, commonly held beliefs, and expected results.
- ✓ Discuss possible errors. Did any questions or problems arise that you were not expecting? How did the data vary between repeated observations of similar events? How were results affected by uncontrolled events?

5 CONCLUSIONS - What conclusions did you reach?

- ✓ What do these results mean in the context of the literature review and other work being done in your research area? How do the results address your research question? Do your results support your hypothesis/hypotheses?
- ✓ What application(s) do you see for your work?

6 REFERENCES - What are your sources?

- ✓ This section should not exceed one page. Limit your list to the most important references.
- ✓ List the references/documentation used which were not of your own creation (i.e., books, journal articles).
- ✓ Your reference list should be written based on the APA (American Psychological Association) style formatting and citation.

Engineering Project**1 INTRODUCTION** - What is your engineering problem and goal?

- ✓ What problem were you trying to solve? Include a description of your engineering goal.
- ✓ Explain what is known or has already been done to solve this problem, including work on which you may build. You may include a brief review of relevant literature.
- ✓ If this is a continuation project, a brief summary of your prior work is appropriate here. Be sure to distinguish your previous work from this year's project.

2 METHODS - What are your methods and procedures for building your design?

- ✓ Explain what you did. How did you design and produce your prototype? If there is a physical prototype, you may want to include pictures or designs of the prototype.
- ✓ If you tested the prototype, what were your testing procedures? What data did you collect and how did you collect that data?
- ✓ DO NOT include a separate list of materials.

3 RESULTS - What were the result(s) of your project?

- ✓ How did your prototype meet your engineering goal?
- ✓ If you tested the prototype, provide a summary of testing data tables and figures that illustrate your results.
- ✓ Include relevant statistical analysis of the data.

4 DISCUSSION - What is your interpretation of these results?

- ✓ What do these results mean? You may compare your results with theories, published data, commonly held beliefs, and/or expected results.
- ✓ Did any questions or problems arise that you were not expecting? Were these problems caused by uncontrolled events? How did you address these?
- ✓ How is your prototype an improvement or advancement over what is currently available?

5 CONCLUSIONS - What conclusions did you reach?

- ✓ Did your project turn out as you expected?
- ✓ What application(s) do you see for your work?

6 REFERENCES – What are your sources?

- ✓ This section should not exceed one page. Limit your list to the most important references.
- ✓ List the references/documentation used which were not of your own creation (i.e., books, journal articles).
- ✓ Your reference list should be written based on the APA (American Psychological Association) style formatting and citation.

Mathematics and Computer Sciences Project

1 INTRODUCTION – What is your research question?

- ✓ Explain what is known or has already been done in your research area. Include a brief review of relevant literature.
- ✓ If this is a continuation project, a brief summary of your prior work is appropriate here. Be sure to distinguish your previous work from this year's project.

2 FRAMEWORK – What is your framework?

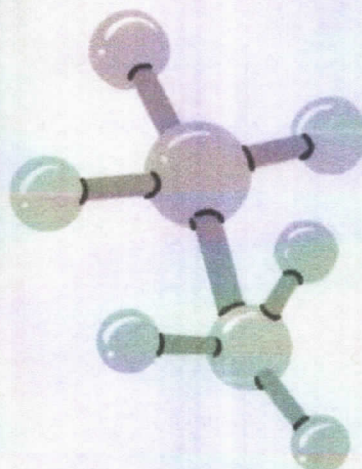
- ✓ Introduce the concepts and notation needed to specify your research question, methods, and results precisely.
- ✓ Define relevant terms, and explain prior/background results. (Novel concepts developed as part of your project can be presented here or in Section 4, as appropriate.)

3 FINDINGS – What are your findings and supporting arguments?

- ✓ What did you discover and/or prove? Describe your result(s) in detail. If possible, provide both formal and intuitive/verbal explanations of each major finding.
- ✓ Describe your methods in general terms.
- ✓ Present rigorous proofs of the theory results – or, if the arguments are long, give sketches of the proofs that explain the main ideas.
- ✓ For numerical/statistical results, include tables and figures that illustrate your data. Include relevant statistical analysis. Were any of your results statistically significant? How do you know this?

4 CONCLUSIONS – What is your assessment of your findings?

- ✓ How do the results address your research question? And how have you advanced your readers' understanding relative to what is already known?
- ✓ Discuss possible limitations. Did any questions or problems arise that you were not expecting?



What challenges do you foresee in extending your results further?

- ✓ What application(s), if any, do you see for your work?

5 REFERENCES – What are your sources?

- ✓ This section should not exceed one page. Limit your list to the most important references.
- ✓ List the references/documentation used which were not of your own creation (i.e., books, journal articles).
- ✓ Your reference list should be written based on the Chicago Manual of Style. For more information, you may visit the websites below:
 - <http://www.chicagomanualofstyle.org/home.html>
 - <http://www.calvin.edu/library/knightcite/index.ph>

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

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

Do not include acknowledgements in the abstract. There should be no references to mentors, institutional facilities, and awards or patents received.

Title

Finalist's Name (or names, if a team project)
School Name, City and Region

Purpose

- An introductory statement providing background or 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.
- 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 done by the finalist. Do not include work done by a mentor (such as surgical procedures) or work done prior to the Finalist's involvement.

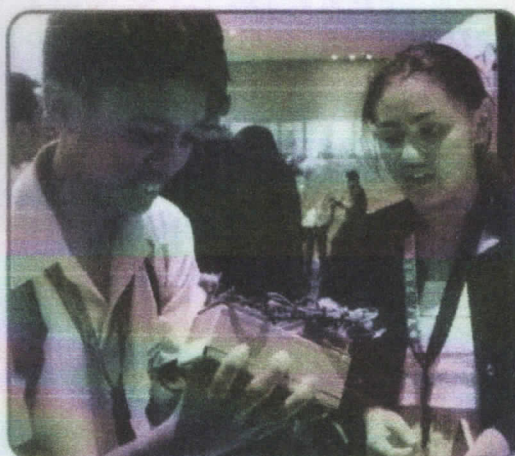
Observations/Data/Results

- This section should provide key results that lead directly to the conclusions.
- Do not include unnecessary 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 ISEF abstract.
- Unless significant, do not include any of the experimental design difficulties encountered in research.

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.
- The ISEF abstract does not include a bibliography. ISEF requires the bibliography as part of the research plan to be provided on Form 1A.

Ethics Statement. Scientific fraud and misconduct is not condoned at any level of research or competition. Plagiarism, use or presentation of other research's work as one's own and fabrication of data will not be tolerated. Fraudulent projects are disqualified from the competition.



APPENDIX 3:

TUKLAS Display Board Format and Safety Guidelines

Display Guidelines

The project display using photo paper summarizes the research project and must focus on the proponent's work for this year's study, and if applicable, with only minimal reference to previous research. Tarpaulins will not be used in any level of Science Fair competition in support of the environmental advocacy of the government in reducing the consumption of non-biodegradable or non-recyclable materials.

The safety regulations that must adhere to or should be consistent with the guidelines set by the International Science and Engineering Fair (ISEF).

The following items should be seen in the project display: Abstract, Background, Objectives, Significance, Methodology, Results and Discussion, Conclusion, Recommendations, Bibliography and if applicable, Photo Credits (including illustrations and graphics).

Physical Project Board Dimension:

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



APPENDIX 4:
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	By Saquin, Elaine ; Molejona, Randy Adviser: Ronilo Aponte
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, Arduino, and humidity sensors were acquired commercially. Other material 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 angles. 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.	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 US-EPA. At the same time, the surplus of local bivalve waste is another environmental concern. Studies show that chemical treatment compromises water quality leaving toxic residues, and an alternative treatment process is biosorption, or using the physical and 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, 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, <i>B. vexillum</i> yielded the highest adsorption percentage of 91.43% and 99.58%, comparable to <i>P. placenta</i> of 91.43% and 99.37%, while significantly different to <i>P. viridis</i> of - 57.14% and 31.53%, ($p<0.05$). FT-IR validated the 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 <i>B. vexillum</i> and <i>P. placenta</i> can be bio-sorbents for water treatment of manganese-impacted effluents, and promote appropriate waste management of local bivalves.

APPENDIX 5:
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 provide supporting details that your invention does not exist yet. 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 innovation in solving problems and issues of today and tomorrow.

Acknowledgements: This part gives credit to 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.

APPENDIX 6:
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 a 38" x 48" dimensions (portrait style)

APPENDIX 8:**Learner Media Release
Consent Form**

I, the undersigned, hereby grant the Department of Education - National Science and Technology Fair the right to record, film, photograph, audiotape, or videotape of me, my work, and performances.

I also grant to the right to edit, use, and reuse said products for nonprofit purposes including use in print, on the internet, and all other forms of media.

I also hereby release the Department of Education and its and employees from all claims, demands, and liabilities whatsoever in connection with the above.

I certify that I have read the Media Consent and Release Form and fully understand its terms and conditions.

Agreed and accepted by

Signature of Learner : _____

Date: _____

Address of Learner: _____

Parental Consent:

I certify that I am the parent or guardian of, _____, a minor under the age of eighteen years. I hereby agree to assume legal responsibility of his/her authorizations referred to in this Form.

Parent/Guardian Signature Over Printed Name:

Address:

Date: _____

APPENDIX 9:
Non-Disclosure Agreement
Form (NDA) Form

I, _____, of legal age, Filipino, and with residence address at _____, have accepted voluntarily the role as **SRC/Judge/Mentor/Adviser**.

I understand that everything that I receive and access from the activity is the property of _____ and is very confidential. Hence, I commit not to copy, reproduce, multiply, photograph, and disseminate any part of the instruments, materials, information, and documents. I am obligated to use the forms and materials only during the duration of the activity based on my TOR until _____.

I understand that if I am found to have violated the conditions set for the service I rendered, I will be held accountable for my actions.

CONFORME:

Signature Over Printed Name
Date: _____
Contact Number: _____
E-mail address: _____
Witnessed by: _____



APPENDIX 12:

Innovation Expo Screening Form

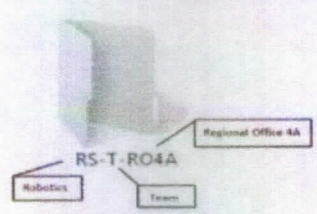
TITLE OF THE PROJECT		
INDIVIDUAL/TEAM		
PROJECT PROPONENT/S		
CRITERIA	WEIGHT	RATING
ORIGINALITY AND CREATIVITY This criterion assesses the uniqueness and innovation of the project. It looks at how the research addresses a problem in a novel way or introduces creative solutions.	35%	
COMMUNITY CONNECTION & IMPACT This criterion evaluates how the innovation research benefits the community or society. It assesses the project's potential to make a positive impact and address real-world issues.	25%	
MARKET ATTRACTIVENESS This criterion examines the commercial viability of the innovation. It considers the potential market demand, scalability, and sustainability of the project.	25%	
UTILIZATION OF PATENT INFORMATION This criterion focuses on how well the project utilizes relevant patent information and avoids infringement on existing patents.	15%	
TOTAL	100%	
COMMENTS		

Signature Over Printed Name

Date Signed:

APPENDIX 16:

Project Labeling and Coding



Digital copies of manuscripts and forms must be submitted in this format

Example:

FOLDER CODE	CONTENT OF THE FOLDER	SAMPLE CONTENT OF THE FOLDER FOR FORMS
LS-I-RO1 *life science-individual-region 1	Manuscript: LS-I-RO1-School Name	
	Folder containing the needed forms: LS-I-RO1-Forms *name of the folder where all the soft copies of the necessary forms are found	LS-I-RO1-Form1
		LS-I-RO1-Form 2
		LS-I-RO1-Logbook
 LS-I-RO1  LS-T-RO1  PS-I-RO1  PS-T-RO1 →  LS-I-RO1-Forms →  LS-I-RO1-Datalogbook.pdf  LS-I-RO1-Form1.docx		

CODES	COLOR CODING
LS-I	GREEN
LS-T	YELLOW
PS-I	BLUE
PS-T	ORANGE
RIM-I	PINK
RIM-T	BROWN
MCS-I	RED
MCS-T	PURPLE

APPENDIX 19:

Project Evaluation Form

Title of Research Project: _____ Code: _____

Fair Division: ☐ Life Science ☐ Physical Science ☐ Robotics and Intelligent Machines
☐ Mathematics and Computational Science Category: ☐ Individual ☐ Team

CATEGORY	SCORE
1. CREATIVE ABILITY (30) 1. Does the project show creative ability and originality in the: a. questions asked? b. approach to solving the problem? c. analysis of the data? d. interpretation of the data? e. use of equipment? f. construction or design of new equipment 2. Creative research should support an investigation and help answer a question in an original way. 3. A creative contribution promotes an efficient and reliable method for solving a problem. When evaluating project, it is important to distinguish between gadgeteering and ingenuity.	
2. SCIENTIFIC THOUGHT (30) (If an engineering project, please see 2b Engineering Goals.) 1. Is the problems stated clearly? 2. Was the problem sufficiently limited to allow plausible approach? Good scientists can identify important problems capable of solutions. 3. Was there a procedural plan for obtaining a solution? 4. Are the variable clearly recognized and defined? 5. If controls were necessary, did the student recognize their need and were they used correctly? 6. Are there adequate data to support the conclusions? 7. Does the finalist/team recognize the data's limitations? 8. Does the finalist/team understand the project's ties to related research? 9. Does the finalist/team have an idea of what further research is warranted? 10. Did the finalist/team cite scientific literature, or only popular literature (e.g. local newspapers, Readers Digest)? ENGINEERING GOALS 1. Does the project have a clear objective? 2. Is the objective relevant to the potential user's needs? 3. Is the solution: workable? Acceptable to the potential user? Economically feasible? 4. Could the solution be utilized successfully in design or construction of an end product? 5. Is the solution a significant improvement over previous alternatives or application? 6. Has the solution been tested for performances under the conditions of use?	
3. THOROUGHNESS (15) 1. Was the purpose carried out to completion within the scope of the original intent? 2. How completely was the problem covered? 3. Are the conclusions based on a single experiment or replication? 4. How complete are the project notes? 5. Is the finalist/team aware of other approaches or theories?	

6. How much time did the finalist or team spend on the project?
7. Is the finalist/team familiar with scientific literature in the studied field?
8. Are the relevant details (including the pages and dates) of the experiment recorded in the research data logbook?

4. SKILL (15)

1. Does the finalist/team have the required laboratory, computation, observational and design skills to obtain the supporting data?
2. Where was the project performed (i.e. home, school laboratory, university laboratory)? Did the student or team receive assistance from parents, teachers, scientists or engineers?
3. Was the project completed under adult supervision, or did the student/team work largely alone?
4. Where did the equipment come from? Was it built independently by the finalist or team? Was it obtained on loan? Was it part of a laboratory where the finalist/team worked?

5. CLARITY (10)

1. How clearly does the finalist or team discuss his/her/their project and explain the purpose, procedure, and conclusions? Watch out for memorized speeches that reflect little understanding of principles.
2. Does the written material reflect the finalist's or team's understanding of the research?
3. Are the important phases of the project presented in an orderly manner?
4. How clearly is the data presented?
5. How clearly are the results presented?
6. How well does the project display explain the project?
7. Was the presentation done in a forthright manner, without tricks or gadgets? Did the finalist/team perform all the project work, or did someone help?

TOTAL

Signature Over Printed Name of Judge



NATIONAL SCIENCE AND TECHNOLOGY FAIR (NSTF)
BOARD OF JUDGES – INDIVIDUAL SCORE SHEET

**PHYSICAL SCIENCE - INDIVIDUAL**[illegible]

(Signature over printed name)
Judge



PHYSICAL SCIENCE – TEAM

[illegible]

(Signature over printed name)
Judge 3
Date Signed:

