To: Dr. Tanag
For appropriate action
7/31/25

Republic of the Philippines
Department of Education
REGION V - BICOL

013622
Date: 7/31/25

30 July 2025

REGIONAL MEMORANDUM
No. 0969 s. 2025

REGIONAL SCIENCE, TECHNOLOGY, FAIR, AND ROBOTICS OLYMPICS FOR SY 2025-2026

To : Schools Division Superintendents
Division Science and Math Supervisors
Public and Private Elementary and Secondary School Heads
All Concerned

1. In preparation for the coming National Science and Technology Fair for School Year 2025-2026, this Office through the Curriculum and Learning Management Division (CLMD) shall conduct the Regional Science, Technology, Fair, and Robotics Olympics for SY 2025-2026 at a venue to be announced later within Naga City on November 5-7, 2025.

2. This year's fair, themed *"Harnessing the Unknown: Powering the Future through Science and Innovation,"* serves as a catalyst for exploring new ideas, driving innovation, and shaping a sustainable future. It empowers learners to push boundaries in science, mathematics, robotics, and research while fostering collaboration, critical thinking, and responsible action to address emerging global challenges.

3. Anent to this, the following schedule of activities shall be observed:

- School Level – 2nd to 3rd week of September, 2025
- Division SRC Evaluation – 4th week of September
- Division Science, Technology, Fair, and Robotics Olympics
  1st to 2nd week of October, 2025
- Submission of Division Entries for Regional Scientific Review Committee (SRC) Paper Evaluation
  October 13, 2025
- Regional Scientific Review Committee Paper Evaluation
  October 14-October 30, 2025
  Release of SRC Results – October 30, 2025
- Regional Science, Technology, Fair, and Robotics Olympics
  November 5-7, 2025
- Cliniquing of Qualifiers to the National Science and Technology Fair
  November 26-28, 2025

Address: Regional Center Site, Rawis, Legazpi City, 4500
Telephone Nos.: 0969 516 9555
Email Address: region5@deped.gov.ph
Website: https://region5.deped.gov.ph/

08/01/25

4. Only the declared first-place winners at the division level shall submit soft copies of the research papers with all other required documents (ISEF Forms) for the Regional Scientific Review Committee (SRC) paper evaluation. This should be submitted on or before October 13, 2025. The submission link must be emailed to rstfrov@gmail.com, following the format:

Folder Code	Contents of the Folder	Sample Content of the Folder for Forms
LS-I-Albay *Life Science-Individual-Albay	Manuscript: LS-I-Division-School Name ex: LS-I-Albay-MORMS	
	Folder containing the needed forms: LS-I-Division-Forms *Name of the folder where all of the soft copies of the forms are found	LS-I-Albay-Form 1 LS-I-Albay-Form 2 LS-I-Albay-Logbook
LS-I-Division LS-T-Division PS-I-Division PS-T-Division RIM-I-Division RIM-T-Division MCS-I-Division MCS-T-Division STEMIE-I-Division STEMIE-T-Division	→ LS-I-Division-Forms	→ LS-I-Division-Data logbook LS-I-Division-Form1

5. The participation of schools in RSTF-RO shall be clustered into categories: Life Science, Physical Science, Robotics and Intelligent Machines, Mathematics and Computational Science, and Science Innovation Expo. Special categories for Robotics Olympics are further classified into: Line Tracing Robot, SumoBot, and RC Robot Soccer.

Life Science (Grades 9-12)		Physical Science (Grades 9-12)		Robotics & Intelligent Machines (Grades 9-12)		Mathematics & Computational Science (Grades 9-12)		Science Innovation Expo (Grades 9-12)		Line Follower Robot	SumoBot	RC Robot Soccer
I	T	I	T	I	T	I	T	I	T	Elementary	STE/STEM	STE/STEM

6. The following documents are enclosed for the information and guidance of all concerned:

Enclosure 1: Mechanics and Guidelines
Enclosure 2: Maximum Number of Participants per SDO and Matrix of Activities
Enclosure 3: Copy of Handbook
Enclosure 4: Templates of Required Forms

7. **No registration fee shall be collected.** Expenses for the SSTF-RO, DSTF-RO, RSTF-RO, and all other travel-related costs shall be charged against local funds and/or other available sources. Meanwhile, expenses for the regional activity—including meals of TWG members, materials, medals, plaques, and honoraria for members of the Scientific Review Committee (SRC), Board of Judges (BOJ), and other external or non-DepEd resource persons—shall be charged against the GASS 2025 and BCD Support Funds, subject to the usual accounting and auditing rules and regulations. All operational funds for the conduct of the RSTF-RO, **excluding** the professional fees of the evaluators and cliniquing expenses, shall be downloaded to the host division of the Regional Fair.

8. All entries must be endorsed by the Schools Division Superintendent. Entries not included in the official endorsement will not be accepted. A link to registration forms will be sent to the division supervisors at least two weeks before the fair.

9. For information, guidance, and wide dissemination.

GILBERT T. SADSAD
Regional Director

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

STEM FAIR
ROBOTICS
RSTF
DSTF
SSTF

CLMD/cheD
07/30/2025

SCHOOLS DIVISION OF SORSOGON
Sorsogon

August 4, 2025

TO: Asst. Schools Division Superintendent
CID and SGOD Chiefs
Concerned Education Program Supervisors/ Specialist
Concerned PSDSs/ OIC-PSDSs
School Heads
All Others Concerned

Please be guided by the contents of this Memorandum.

For information, dissemination and guidance of all concerned.

JOSE L. DONCILLO, CESO V
Schools Division Superintendent

MECHANICS AND GUIDELINES

A. Research Fair and Congress (Individual and Team Categories)

Qualification

- 1st Place declared winner at the division level.
- Grades 9 to 12 STE/STEM student.

Guidelines

- Approval of the Regional Scientific Review Committee is required for all projects. All approved projects of the Regional SRC evaluators will advance to the Regional Science, Technology Fair, and Robotics Olympics.
- Entries for the Science Innovation Expo (SIE) must have already applied for and secured the Certificate of Patent/Copyright before they will be accepted at the Regional Fair. Likewise, Science Innovation Expo follows a different criterion for judging, hence the presentation should focus on product presentation, originality/creativity, community/ connection impact, market attractiveness, functionality, and technology validation.
- All entries shall have a poster exhibit display. Materials for the display will not be provided by the organizer; hence, it shall be the responsibility of the researcher/s.
  Tuklas Research Paper Format will be followed (see Appendix 2 of the handbook). Display Format for all research entries shall follow the 36 by 67 inches Project Board Dimensions and must adhere to the Safety Guidelines and Restrictions (Appendix 3) specified in the School, Division, Regional, and National Science and Technology Fair Guidebook.
- Prepare a 5-minute presentation of the research focusing on the extended abstract: Purpose, Procedure, Results, and Conclusion. Q & A shall be at the discretion of the Board of Judges. Remember to follow the standards in preparing a PowerPoint presentation. Do not copy and paste the write-up in the slide decks.
- Soft copies of research papers must be submitted on or before October 13, 2025.
- Submit three (3) hard copies of the revised paper in the required color-coded folders on the day of the fair. Papers must reflect compliance with suggested revisions, which will be checked by the evaluator before the congress.
  Ensure all changes are clearly indicated (ear-marked) in the write-up.

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RIM-I	Pink		
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- Both the Research Adviser and Researcher must have read and understood the International Rules for Pre-College Science Research: Guidelines for Science and Engineering Fairs and the Guidebook for Science Fairs.

- Guidance on all Required Forms can be found in Appendices 7 and 11 of the guidebook.

Criteria for Judging

Science Innovation Expo

Originality and Creativity:	30%
Community Connection and Impact:	20%
Market Attractiveness:	20%
Functionality and Technology Validation:	10%
Project Pitching/Product Presentation	10%
Utilization of Patent Information:	10%
	100%

Research Projects (Life Science, Physical Science, Robotics and Intelligent Machines and Mathematics and Computational Science)

Creative Ability:	30%
Scientific Though/Engineering Goal:	30%
Thoroughness:	15%
Skill:	15%
Clarity:	10%
	100%

Best Presenter

Delivery:	20%
Organization (Logical Presentation):	20%
Content:	30%
Language:	15%
Visuals:	10%
Time Management:	5%
	100%

Best Poster Display

Content: (Accuracy, Clarity & Relevance)	30%
Visual Presentation: (Layout & Organization, Aesthetics & Design, Use of Graphics)	30%
Creativity & Innovation:	20%
Impact and Relevance:	20%
	100%

ROBOTICS OLYMPICS MECHANICS AND GUIDELINES

A. Line Tracing Robot - Elementary

Objective

The goal of this contest is for each team's robot to autonomously follow a black line on a white background and reach the finish line in the shortest possible time.

Qualification

1. Open to Elementary students. Teams may consist of members from either level or a mix of both.
2. Each team may consist of up to 2 student members and 1 coach.
3. Only one (1) team per division is allowed to participate.

Robot Requirements

1. Each team is allowed to use only one robot.
2. The robot must not exceed 25 cm x 25 cm in size.
3. The robot must be fully autonomous—no remote control or manual intervention is allowed during operation.
4. The robot may have any number of wheels.
5. It must have an easily accessible on/off switch.
6. The robot must be battery-operated. Any type of battery is allowed, provided it is safe and securely mounted.
7. Any brand or type of microcontroller or microprocessor may be used, provided the robot operates autonomously.

8. The robot must be programmable. Teams must upload and test their code during the designated practice time only.
9. Any type and number of sensors may be used to support autonomous navigation.
10. Non-compliance with these requirements will result in disqualification.

Competition Rules

1. Robots must adapt to the existing lighting conditions. Lighting will not be adjusted for individual teams. Flash photography and IR cameras are allowed unless deemed disruptive by the judges.
2. The arena will open 1 hour before the competition. Each team will be given 5 minutes of practice time.
3. Once the competition begins, no physical adjustments to the robot or changes to its programming are allowed. Code uploading or editing is strictly prohibited during the official match period, and the robots must be immediately placed back in the location specified by the judges.
4. Timing starts when the robot begins moving and stops upon reaching the finish line.
5. Each team will have three (3) attempts. The shortest time will be recorded.
6. The team with the fastest completion time wins.
7. Robots that leave the arena surface will be disqualified for that attempt.
8. If a robot fails to complete the course, partial points will be awarded based on the distance traveled.
9. In the event of a tie, a rematch may be conducted at the discretion of the organizers.
10. All decisions made by the judges and officials are final and binding.

Organization and Registration

1. All robots must be registered before the competition, including a technical inspection and number sticker assignment.
2. Technical inspections must be completed on the deadline set by the organizers.
3. The referee will resolve all issues or questions during the event.
4. No objections to the decisions of the facilitators or judges will be entertained.

B. SumoBot

Objectives

The goal of the Sumobot competition is for each team's robot to push its opponent out of the ring (dohyo) using strategy, strength, and autonomous control. The last robot remaining inside the ring wins the match.

Qualification

1. Open to J**unior High School (JHS) and Senior High School (SHS) students**. Teams may consist of members from either level or a mix of both.
2. Each team may consist of up to 2 student members and 1 coach.
3. Only one (1) team per division is allowed to participate.

Robot Requirements

1. Each team is allowed to use only one robot.
2. The robot must not exceed 20 cm x 20 cm x 20 cm in size.
3. The robot must not weigh more than 1 kilogram (1 kg).
4. The robot must be fully autonomous—no remote control or manual intervention is allowed during matches.
5. The robot may have any number of wheels or locomotion mechanisms.
6. It must have an easily accessible on/off switch.
7. The robot must be battery-operated. Any type of battery is allowed, as long as it is safe and securely mounted.
8. Any brand or type of microcontroller or microprocessor may be used, provided the robot operates autonomously.
9. Any type and number of sensors may be used to support autonomous operation.
10. Robots must not use any weapons, projectiles, or devices that could damage the opponent or the arena.
11. Non-compliance with these requirements will result in disqualification.

Competition Rules

1. Teams are expected to be at the field 5 minutes before their game starts.
2. Matches will be held in a circular ring (dohyo) with a diameter of 77 cm and a white border.
3. Robots must start from designated starting zones.
4. At the referee's signal, the contestant can press the start button on the robot. The match begins five seconds after the referee's signal. The contestant must exit the dohyo when the match begins.
5. The objective is to push the opponent robot out of the ring.
6. A robot wins a round and earns a Yuko (effective) point if any of the following conditions are met:
    a. When a robot ejects its opponent from the dohyo with a fair action. The robot is considered ejected the moment any part of the robot touches any part of the exterior of the dohyo. A robot hanging over the edge of the dohyo or touching any part of the cylindrical side of the dohyo is not considered ejected, and the robot is still in play.
    b. The opponent is immobilized for more than 10 seconds.
    c. The opponent robot fails to move within 30 seconds of the match start.
    d. When the opponent's robot steps out of the dohyo on its own (for any reason).
    e. When the opponent's robot is disqualified or has had more than one violation or warning.
7. Each match consists of a best-of-three rounds.
8. The first contestant to win two Yuko points is the winner of the game.
9. The contestant who has the most Yuko points at the end of the game will be judged as the winner.
10. If both robots are immobilized or exit the ring simultaneously, the round is declared a draw.
11. Rematch can be done if:
    a. If the match ends in a draw (e.g., 1 win each and 1 draw) after 3 rounds.
    b. If no Yuko points are awarded or both contestants have one, the judges will decide the winner based on which robot was more aggressive. If neither shows clear superiority, a three-minute rematch will be held.

- *In case of a rematch, no robot maintenance is allowed until a Yuko is scored, and robots must be promptly returned to their designated positions.*

12. A robot that fails to move within 30 seconds of the match start will be disqualified for that round.
13. Robots must not intentionally damage the opponent or the arena.
14. The referee's decisions are final and non-negotiable.

Organization and Registration

1. All robots must be registered prior to the competition, including a technical inspection and number sticker assignment.
2. Technical inspections must be completed by the organizer's specified deadline.
3. The referee will resolve all issues or questions during the event.
4. Decisions made by facilitators or judges are final and not subject to appeal.

C. RC Robot Soccer

Objectives

Teams will control three robots to play soccer against another team. The goal is to score more points than the opposing team within the match duration.

Strategy, teamwork, and robot control are key to winning.

Qualification

1. Open to **Junior High School (JHS) and Senior High School (SHS) students**. Teams may consist of members from either level or a mix of both.
2. Each team may consist of up to 3 student members and 1 coach.
3. Only one (1) team per division is allowed to participate.

Robot Requirements

1. Each team must use three (3) remote-controlled robots.
2. Each robot must not exceed 20 cm x 20 cm x 20 cm in size.
3. Each robot must not weigh more than 1 kilogram (1 kg).
4. Robots must be remotely controlled (wireless).
5. Any type of microcontroller, motor driver, and communication module may be used.
6. Robots must be battery-powered and safe for operation.
7. Robots must not have any sharp edges, projectiles, or mechanisms that could damage the field or other robots.
8. Each robot must have a visible team identifier (e.g., sticker or flag).
9. Robots must be distinguishable from each other (e.g., numbered or color-coded).

Competition Rules

1. Teams are expected to be at the field 5 minutes before their game starts.
2. The game is played on a rectangular field with goals on each end.
3. Each match consists of two halves, each lasting 2 minutes, with a 1-minute break in between.
4. The team that scores the most goals by the end of the match wins.

5. A kick-off starts the game and resumes play after each goal.
6. Robots must stay within the field boundaries. If a robot leaves the field, it will be removed from the field for a **20-second penalty**. The robot is allowed to return if a kick-off occurs before the penalty has elapsed and will be repositioned by the referee to the designated area.
7. A maximum of three robots per team is allowed on the field at any given time.
8. No intentional blocking, ramming, or pinning of the opponent is allowed.
9. A robot is not allowed to hold the ball, which means taking full control by eliminating all its degrees of freedom. This includes fixing the ball to the robot, enclosing it to block access, or trapping it in any way. If the ball doesn't roll while the robot moves, it is likely held.
10. If a robot becomes stuck or non-functional, the team may request a **10-second timeout** (once per match) to reset or reposition the robot.
11. In the event of a tie, a 2-minute sudden-death overtime will be played. The first team to score wins.
12. Scoring

Action	Score
Goal scored	1 point
Own goal	1 point to the opponent
Unsportsmanlike behavior	Warning or disqualification

Organization and Registration

1. All robots must be registered before the competition, including a technical inspection.
2. Robots will be marked with a team number or identifier.
3. All issues or disputes will be resolved by the referee.
4. No objections to the decisions of the facilitators or judges will be entertained.

Enclosure 2

Maximum Number of Participants per Event

Event	Student	Coach	Total
○ Life Science Individual	1	2	3
○ Life Science Team	3	2	5
○ Physical Science Individual	1	2	3
○ Physical Science Team	3	2	5
○ Robotics & Intelligent Machines Individual	1	2	3
○ Robotics & Intelligent Machines Team	3	2	5
○ Mathematics & Computational Science Individual	1	2	3
○ Mathematics & Computational Science Team	3	2	5
○ Science Innovation Expo Individual	1	2	3
○ Science Innovation Expo Team	3	2	5
○ Line Tracing Robot (Elementary)	2	1	3
○ SumoBot (JHS/SHS)	2	1	3
○ RC Robot Soccer	3	1	4
Total			= 50

Regional Science, Technology, Fair, and Robotics Olympics for School Year 2025-2026
MATRIX OF ACTIVITIES
November 4-7, 2025

November 4	November 5	November 6	November 7
	7:00-9:00 AM Confirmation of Registration Putting up of Poster Exhibit Display 9:30-11:30 AM Opening Program	**8:00-5:00** Science Congress (Simultaneous) **Life Science** **Physical Science** **Robotics and Intelligent Machines** **Mathematics and Computational Science** **Science Innovation Expo**	**8:00-10:30** Plenary Session **11:00-12:00** Closing Program and Awarding of Winners
1:00-onwards **Preparatory WS and Conference of TWG** **Putting up of Poster Exhibit Display**	1:00 -5:00 PM Public Viewing Poster Presentation Robotics Olympics -Line Tracing -SumoBot -RC Robot Soccer		**1:00 PM** Wrap-up and Closure Meeting of Qualifiers to the National Science and Technology Fair

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Best Presenter

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Organization (Logical Presentation):	20%
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Visuals:	10%
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ROBOTICS OLYMPICS MECHANICS AND GUIDELINES

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The goal of this contest is for each team's robot to autonomously follow a black line on a white background and reach the finish line in the shortest possible time.

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2. The arena will open 1 hour before the competition. Each team will be given 5 minutes of practice time.
3. Once the competition begins, no physical adjustments to the robot or changes to its programming are allowed. Code uploading or editing is strictly prohibited during the official match period, and the robots must be immediately placed back in the location specified by the judges.
4. Timing starts when the robot begins moving and stops upon reaching the finish line.
5. Each team will have three (3) attempts. The shortest time will be recorded.
6. The team with the fastest completion time wins.
7. Robots that leave the arena surface will be disqualified for that attempt.
8. If a robot fails to complete the course, partial points will be awarded based on the distance traveled.
9. In the event of a tie, a rematch may be conducted at the discretion of the organizers.
10. All decisions made by the judges and officials are final and binding.

Organization and Registration

1. All robots must be registered before the competition, including a technical inspection and number sticker assignment.
2. Technical inspections must be completed on the deadline set by the organizers.
3. The referee will resolve all issues or questions during the event.
4. No objections to the decisions of the facilitators or judges will be entertained.

B. SumoBot

Objectives

The goal of the Sumobot competition is for each team's robot to push its opponent out of the ring (dohyo) using strategy, strength, and autonomous control. The last robot remaining inside the ring wins the match.

Qualification

1. Open to J**unior High School (JHS) and Senior High School (SHS) students**. Teams may consist of members from either level or a mix of both.
2. Each team may consist of up to 2 student members and 1 coach.
3. Only one (1) team per division is allowed to participate.

Robot Requirements

1. Each team is allowed to use only one robot.
2. The robot must not exceed 20 cm x 20 cm x 20 cm in size.
3. The robot must not weigh more than 1 kilogram (1 kg).
4. The robot must be fully autonomous—no remote control or manual intervention is allowed during matches.
5. The robot may have any number of wheels or locomotion mechanisms.
6. It must have an easily accessible on/off switch.
7. The robot must be battery-operated. Any type of battery is allowed, as long as it is safe and securely mounted.
8. Any brand or type of microcontroller or microprocessor may be used, provided the robot operates autonomously.
9. Any type and number of sensors may be used to support autonomous operation.
10. Robots must not use any weapons, projectiles, or devices that could damage the opponent or the arena.
11. Non-compliance with these requirements will result in disqualification.

Competition Rules

1. Teams are expected to be at the field 5 minutes before their game starts.
2. Matches will be held in a circular ring (dohyo) with a diameter of 77 cm and a white border.
3. Robots must start from designated starting zones.
4. At the referee's signal, the contestant can press the start button on the robot. The match begins five seconds after the referee's signal. The contestant must exit the dohyo when the match begins.
5. The objective is to push the opponent robot out of the ring.
6. A robot wins a round and earns a Yuko (effective) point if any of the following conditions are met:
    a. When a robot ejects its opponent from the dohyo with a fair action. The robot is considered ejected the moment any part of the robot touches any part of the exterior of the dohyo. A robot hanging over the edge of the dohyo or touching any part of the cylindrical side of the dohyo is not considered ejected, and the robot is still in play.
    b. The opponent is immobilized for more than 10 seconds.
    c. The opponent robot fails to move within 30 seconds of the match start.
    d. When the opponent's robot steps out of the dohyo on its own (for any reason).
    e. When the opponent's robot is disqualified or has had more than one violation or warning.
7. Each match consists of a best-of-three rounds.
8. The first contestant to win two Yuko points is the winner of the game.
9. The contestant who has the most Yuko points at the end of the game will be judged as the winner.
10. If both robots are immobilized or exit the ring simultaneously, the round is declared a draw.
11. Rematch can be done if:
    a. If the match ends in a draw (e.g., 1 win each and 1 draw) after 3 rounds.
    b. If no Yuko points are awarded or both contestants have one, the judges will decide the winner based on which robot was more aggressive. If neither shows clear superiority, a three-minute rematch will be held.

- *In case of a rematch, no robot maintenance is allowed until a Yuko is scored, and robots must be promptly returned to their designated positions.*

12. A robot that fails to move within 30 seconds of the match start will be disqualified for that round.
13. Robots must not intentionally damage the opponent or the arena.
14. The referee's decisions are final and non-negotiable.

Organization and Registration

1. All robots must be registered prior to the competition, including a technical inspection and number sticker assignment.
2. Technical inspections must be completed by the organizer's specified deadline.
3. The referee will resolve all issues or questions during the event.
4. Decisions made by facilitators or judges are final and not subject to appeal.

C. RC Robot Soccer

Objectives

Teams will control three robots to play soccer against another team. The goal is to score more points than the opposing team within the match duration.

Strategy, teamwork, and robot control are key to winning.

Qualification

1. Open to **Junior High School (JHS) and Senior High School (SHS) students**. Teams may consist of members from either level or a mix of both.
2. Each team may consist of up to 3 student members and 1 coach.
3. Only one (1) team per division is allowed to participate.

Robot Requirements

1. Each team must use three (3) remote-controlled robots.
2. Each robot must not exceed 20 cm x 20 cm x 20 cm in size.
3. Each robot must not weigh more than 1 kilogram (1 kg).
4. Robots must be remotely controlled (wireless).
5. Any type of microcontroller, motor driver, and communication module may be used.
6. Robots must be battery-powered and safe for operation.
7. Robots must not have any sharp edges, projectiles, or mechanisms that could damage the field or other robots.
8. Each robot must have a visible team identifier (e.g., sticker or flag).
9. Robots must be distinguishable from each other (e.g., numbered or color-coded).

Competition Rules

1. Teams are expected to be at the field 5 minutes before their game starts.
2. The game is played on a rectangular field with goals on each end.
3. Each match consists of two halves, each lasting 2 minutes, with a 1-minute break in between.
4. The team that scores the most goals by the end of the match wins.

5. A kick-off starts the game and resumes play after each goal.
6. Robots must stay within the field boundaries. If a robot leaves the field, it will be removed from the field for a **20-second penalty**. The robot is allowed to return if a kick-off occurs before the penalty has elapsed and will be repositioned by the referee to the designated area.
7. A maximum of three robots per team is allowed on the field at any given time.
8. No intentional blocking, ramming, or pinning of the opponent is allowed.
9. A robot is not allowed to hold the ball, which means taking full control by eliminating all its degrees of freedom. This includes fixing the ball to the robot, enclosing it to block access, or trapping it in any way. If the ball doesn't roll while the robot moves, it is likely held.
10. If a robot becomes stuck or non-functional, the team may request a **10-second timeout** (once per match) to reset or reposition the robot.
11. In the event of a tie, a 2-minute sudden-death overtime will be played. The first team to score wins.
12. Scoring

Action	Score
Goal scored	1 point
Own goal	1 point to the opponent
Unsportsmanlike behavior	Warning or disqualification

Organization and Registration

1. All robots must be registered before the competition, including a technical inspection.
2. Robots will be marked with a team number or identifier.
3. All issues or disputes will be resolved by the referee.
4. No objections to the decisions of the facilitators or judges will be entertained.

Enclosure 2

Maximum Number of Participants per Event

Event	Student	Coach	Total
o Life Science Individual	1	2	3
o Life Science Team	3	2	5
o Physical Science Individual	1	2	3
o Physical Science Team	3	2	5
o Robotics & Intelligent Machines Individual	1	2	3
o Robotics & Intelligent Machines Team	3	2	5
o Mathematics & Computational Science Individual	1	2	3
o Mathematics & Computational Science Team	3	2	5
o Science Innovation Expo Individual	1	2	3
o Science Innovation Expo Team	3	2	5
o Line Tracing Robot (Elementary)	2	1	3
o SumoBot (JHS/SHS)	2	1	3
o RC Robot Soccer	3	1	4
Total			= 50

Regional Science, Technology, Fair, and Robotics Olympics for School Year 2025-2026
MATRIX OF ACTIVITIES
November 4-7, 2025

November 4	November 5	November 6	November 7
	7:00-9:00 AM Confirmation of Registration Putting up of Poster Exhibit Display 9:30-11:30 AM Opening Program	**8:00-5:00** Science Congress (Simultaneous) o **Life Science** o **Physical Science** o **Robotics and Intelligent Machines** o **Mathematics and Computational Science** o **Science Innovation Expo**	**8:00-10:30** Plenary Session **11:00-12:00** Closing Program and Awarding of Winners
1:00-onwards **Preparatory WS and Conference of TWG** **Putting up of Poster Exhibit Display**	1:00 -5:00 PM Public Viewing Poster Presentation Robotics Olympics -Line Tracing -SumoBot -RC Robot Soccer		**1:00 PM** Wrap-up and Closure Meeting of Qualifiers to the National Science and Technology Fair

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

FIRST EDITION | MAY 2023

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LIST OF ACRONYMS AND ABBREVIATIONS

BOJ	Board of Judges
DSTF	Division Science and Technology Fair
IACUC	Institutional Animal Care and Use Committee
IRB	Institutional Review Board
ISEF	International Science and Engineering Fair
LS-I	Life Science Individual Category
LS-T	Life Science Team Category
MCS-I	Mathematics and Computational Science Individual Category
MCS-T	Mathematics and Computational Science Team Category
MIM	Mathematics Investigation and Modeling
NDA	Non-Disclosure Agreement
NSTF	National Science and Technology Fair
PHBAs	Potentially Hazardous Biological Agents
PS-I	Physical Science Individual Category
PS-T	Physical Science Team Category
RIM-I	Robotics and Intelligent Machines Individual Category
RIM-T	Robotics and Intelligent Machines Team Category
RRI	Regulated Research Institutions
RSTF	Regional Science and Technology Fair
SRC	Scientific Review Committee
STEM	Science Technology Engineering and Mathematics
TWG	Technical Working Group

OVERVIEW

The National Science and Technology Fair (NSTF) is an annual Science, Technology, Engineering and Mathematics (STEM) research and innovation competition organized by the Department of Education through the Bureau of Curriculum Development. Conducted among junior and senior high school learners, the competition starts from the school level which progresses through the division, regional, and national levels. Around 3,000 research projects from public and private high schools are evaluated by the Scientific Review Committees (SRC), and are pared down to an average of 80 STEM projects competing in the national level every year.

NSTF showcases the top young STEM-oriented high school learners and the culmination of their acquired and applied scientific and mathematical knowledge, skills, and attitudes manifested through STEM investigations with the development of effective and efficient solutions to address local and global issues and challenges. The competition also celebrates the achievements and collaboration of local research communities. These communities are established through the initiatives of junior and senior high school learners, with the extended efforts and support of parents, teachers, school administrators, staff, a pool of experts from research institutions, government agencies and units, organizations, industries, and other stakeholders.

Through NSTF, thousands of learners are challenged to go beyond their classroom studies to do independent project-based research, which highlights their competence in the application of STEM process skills, design thinking skills, and 21st-century skills in real-life setting. They work independently or in teams to address community problems and research gaps in fields such as Life Sciences, Physical Sciences, Robotics and Intelligent Machines, Engineering, and Mathematics that interest them. NSTF also provides an avenue to encourage and inspire Filipino learners from the different regions of the country to pursue STEM careers as researchers, scientists, technology experts, engineers, and mathematicians who will provide positive and significant contributions in the country.

NSTF serves as a STEM talent pipeline, selecting young STEM enthusiasts to compete in international research and innovation competitions, primarily the annual International Science and Engineering Fair (ISEF). ISEF is the world's largest and premier pre-college STEM competition involving thousands of student researchers. Every ISEF finalist is celebrated by fellow attending learners, parents, teachers, mentors, sponsors, organizers, experts/judges, government units, and the public from various countries, regions, and territories. They come together in a global research endeavor to design and develop STEM advancements for sustainable development.

OBJECTIVES

The **National Science and Technology Fair (NSTF)** aims to:

- ☑ Develop and strengthen the Science, Technology, Engineering, and Mathematics (STEM) skills of learners through the conduct of research projects that address local, national and/or global issues, concerns, and problems;
- ☑ Provide an avenue for high school learners to communicate research findings and showcase their investigations and innovations to the STEM community and the public;
- ☑ Foster a culture of creativity and innovation among the youth;
- ☑ Promote STEM awareness and interest among learners, teachers, and the public;
- ☑ Provide an opportunity for collaboration and establish research networks between and among the learners, stakeholders, and the community.
- ☑ Provide an avenue for high school learners to communicate research findings and showcase their investigations and innovations to both the STEM community and the public.

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.*

ROLES AND RESPONSIBILITIES OF LEARNERS AND ADULTS

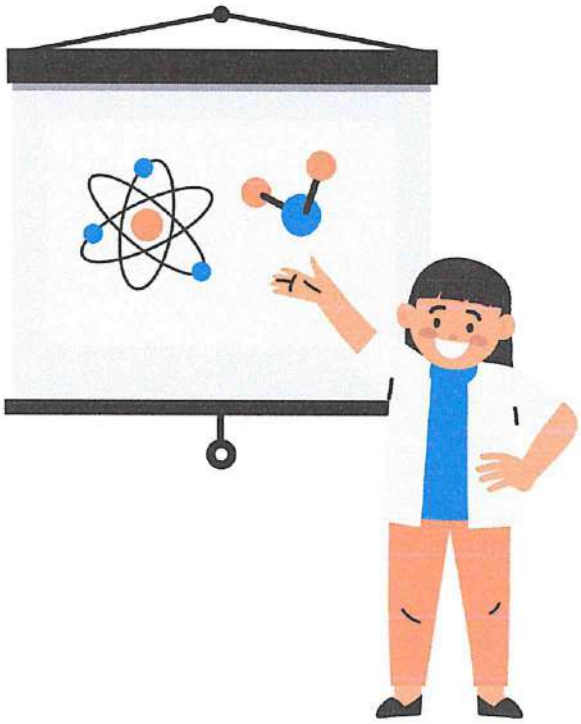
STUDENT RESEARCHER

- Understands and abides by the ethical and safety considerations, national laws, and updated rules and regulations set by the NSTF and ISEF in planning and performing STEM research investigations.
- Identifies a research topic/problem and formulates a plan to address the problem.
- Conducts a comprehensive review of related literatures about the topic/problem.
- Writes a research plan using the prescribed format. Prepares other documents to support the project plan such as budget plan, timeline of activities, risk assessment, and target deliverables.
- Communicates with qualified scientists from regulated research institutions (RRI) to ask for technical assistance to improve the research plan and request for permission to conduct experimentation in the RRIs laboratory/ facility with the supervision of a consultant/laboratory assistant.
- Completes all necessary ISEF forms based on the nature of the chosen research study.
- Secures the original copies of signed ISEF forms and certification from Scientific Review Committee (SRC), Institutional Review Board (IRB) and/or Institutional Animal Care and Use Committee (IACUC) before starting the research work.
- Records the details of the preliminary research project-related activities, experimentation proper, raw data, and summary of the consultations with the research adviser and qualified scientist/laboratory assistant in a data logbook.
- Performs the experimentation with the guidance of the research adviser and qualified scientist/laboratory assistant.
- Takes necessary and appropriate photo-documentation.
- Conducts data analysis with the guidance of the research adviser and/or statistician.
- Writes the research paper following the APA (American Psychological Association) style formatting and citation.
- Chooses the appropriate category that most accurately fits the nature of the study and prepares a brief presentation about the research project.
- Presents the project display poster and answers questions and clarifications from the judges and the general public.

ADULT ADVISOR/SPONSOR

- May be a teacher, parent, professor, and/or a qualified scientist who will directly oversee student researchers throughout the course of the STEM research project.
- Should have a solid background in the area of student research. If not, carry out a literature review to know more about the pre-requisite information regarding the main topic/problem, entities/test subjects, variables, methodologies, and other relevant related literatures needed to better understand the rationale and basics of the research project.
- Must be familiar with the safety and ethical considerations, national laws and updated rules and regulations set by NSTF and ISEF in planning and performing STEM research.
- Orients learners on the following: a) roles and responsibilities of the researcher, advisor (adult sponsor), qualified scientist and designated supervisor b) adherence to the rules, regulations, and laws.
- Communicates with the parent/guardian of student researchers regarding the rationale of conducting STEM researches and the general details on how research activities will be carried out. Secures signed copies of parental/ guardian consent for the participation of learners in the research endeavor.
- Reviews the necessary ISEF forms and research proposal to ensure that learners are abiding by the rules and regulations.
- Ensures the health and safety of learners by identifying potential hazards and evaluates risks involved in all research-related activities with the researchers. Familiarizes learners on how to minimize research-related risks and carry out necessary measures during emergencies.

- Collaborates with RRIs to ask for technical assistance from their pool of experts and permission to use their laboratory facilities. Prepares communication letters, memorandum of understanding/agreement, and other necessary requirements.
- Monitors the conduct of research activities within the projected workplan. Asks relevant questions to researchers before, during and after experimentation to evaluate and strengthen their understanding of the technical know-how of the research process.
- Allows student researcher consultation during the most convenient time for both parties (learner and adviser).
- Checks the correct usage, syntax, and grammar of the research paper, and display poster of the student researchers.
- Guides student researcher in choosing the appropriate category that most accurately fits the nature of the study.
- Conducts local oral defense presentations and provides comments and suggestions to further improve the content and delivery of the presentation.
- Ensures that the learner is physically, emotionally, and mentally ready for the oral defense presentation.



QUALIFIED SCIENTIST

- A qualified scientist should have earned a doctorate degree and/or at least 3 years of extensive experience and expertise in a STEM discipline related to the learner's research investigation.
- Can also serve as the adult sponsor if the abovementioned qualifications are met.
- Needed for research involving human participants, animals, hazardous chemicals, and/or other PHBAs.
- Must be thoroughly familiar with ethical and safety considerations, national laws, and updated rules set by NSTF and ISEF that relate to the nature of the research project.
- Reviews and provides comments and suggestions to further refine the STEM project proposal. Approves the learner's project plan.
- Reviews and completes the required documentation in the ISEF forms and data logbook.
- May or may not come from the RRI where experimentation is to be conducted; if not from RRI, a separate designated supervisor from the RRI must be present to supervise the experimentation conducted at the RRI.
- Ensures the proper training of student researchers and/or designated supervisors in carrying out the necessary procedures.

DESIGNATED SUPERVISOR

- ☑ Must be familiar with the learner's project and underwent/undergoes relevant trainings related to the area of study of the researcher.
- ☑ May also serve as the adult sponsor for the project.
- ☑ If the project involves the use of vertebrate animals, the designated supervisor must be well-equipped with the relevant knowledge and skills on proper handling and ethical concerns with the use of the test animals.
- ☑ Provides direct supervision during conduct of the experimentation.
- ☑ Reviews and completes the required documentation in the ISEF forms and data logbook.

INSTITUTIONAL REVIEW BOARD

An Institutional Review Board (IRB) is a committee that must evaluate the potential physical or psychological risk of research involving human subjects. All proposed human research must be approved prior to experimentation. This includes any surveys or questionnaires to be used in a project. An IRB must consist of at least three members: a science teacher, a school administrator, and a psychologist, psychiatrist, medical doctor, physician's assistant, or registered nurse. The adult sponsor, parents, qualified scientist, or the designated supervisor overseeing a project must not serve on the IRB reviewing that project.

SCIENTIFIC REVIEW COMMITTEE (SRC)

- ☑ An SRC must consist of a minimum of three individuals with at least 3 years of extensive experience and expertise in STEM research project and/or graduate degrees in STEM related disciplines, whereas it is recommended to diversify the expertise of the committee (e.g., Life Science research SRC: agronomist, STEM professor/ educator, biomedical scientist).
- ☑ 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.
- ☑ Must be thoroughly familiar with ethical and safety considerations, national laws, and updated rules and regulations set by NSTF and ISEF.
- ☑ Checks and evaluates student research project, certifications, research plan, documentation, evidence of proper supervision, and project display in compliance with NSTF and ISEF rules, applicable laws and regulations at each level of the STEM fair competitions. Examines research projects for the following:

  a. Evidence of literary research
  b. Evidence of proper supervision
  c. Consistency of completion of the required information, signatures and dates in the ISEF forms and data logbook
  d. Use of accepted and appropriate research methodologies
  e. Evidence of risk assessment and appropriate literatures search and attribution
  f. Search for alternatives to animal use
  g. Humane treatment of animals
  h. Documentation of substantial expansion for continuation projects
  i. Compliance with ISEF ethics statement

NOTE: *To avoid conflict of interest, no adult sponsor, parent or other relative of the student, qualified scientist, or designated supervisor who oversees the project, may serve on the SRC or IRB reviewing the STEM research projects.*

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) softbounded 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: https://apastyle.apa.org

B. Division Science & Technology Fair (DSTF)

Before:

1. Planning and consultation meeting spearheaded by the Division Education Program Supervisors in Science and Math with the school heads, and science and mathematics department heads, coordinators/focal persons, and TWG.
2. Issuance of the division memorandum on the conduct of the DSTF aligned with the Regional and National Memorandum.
3. Identification of the division level SRC based on the criteria set by NSTF and ISEF. The division-level SRC will evaluate the research manuscripts, required forms, certifications/pre-approvals, and data logbooks of the school entries to the DSTF.
4. 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.
5. Signing of non-disclosure agreements with the SRC and TWG members.
6. Submission of the three (3) hard and digital copies of research manuscripts and other entry requirements of the Top 3 entries for the individual and team projects in each research category to the DSTF focal person with attached report of the conduct of SSTF and endorsement by the school head 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 division memorandum regarding the results of the SRC review and the list of qualifiers for the DSTF 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 DSTF 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 DSTF.
12. Preparation of the 1-minute video presentation for the school shoutout.
13. Online resubmission of the digital copies of manuscripts, other entry requirements and PowerPoint presentation for the STEM congress to DSTF focal person with official endorsement by the school head to the division office.
14. Online pre-registration of participants (optional).

During:

1. Registration of participants and submission of the three (3) softbound hard copies of color-coded manuscripts (see Appendix 16) with tags to identify the revisions done based on the RRR.
2. Submission of the school shoutout and three (3) softbounded 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 formal attire during the conduct of DSTF.
3. Inspection of the Project display, whereas the TWG may require learners to make revisions in the display boards in order to adhere to the prescribed rules and regulations.
4. Conduct of the DSTF opening program and on-site judging of the entries.
5. SRC/BOJ final evaluation of the qualified research entries through the STEM congress.
6. 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, People's Choice Award, Peers' Choice Award, Best Shoutout) and sponsored honorable awards by institutions/organizations may also be given to learners and advisors.
7. Orientation of the student researchers and advisors of the Top 2 entries or the individual and team projects in each research category for further comments, suggestions and other preparations needed as division representatives to the Regional Science and Technology Fair (RSTF).

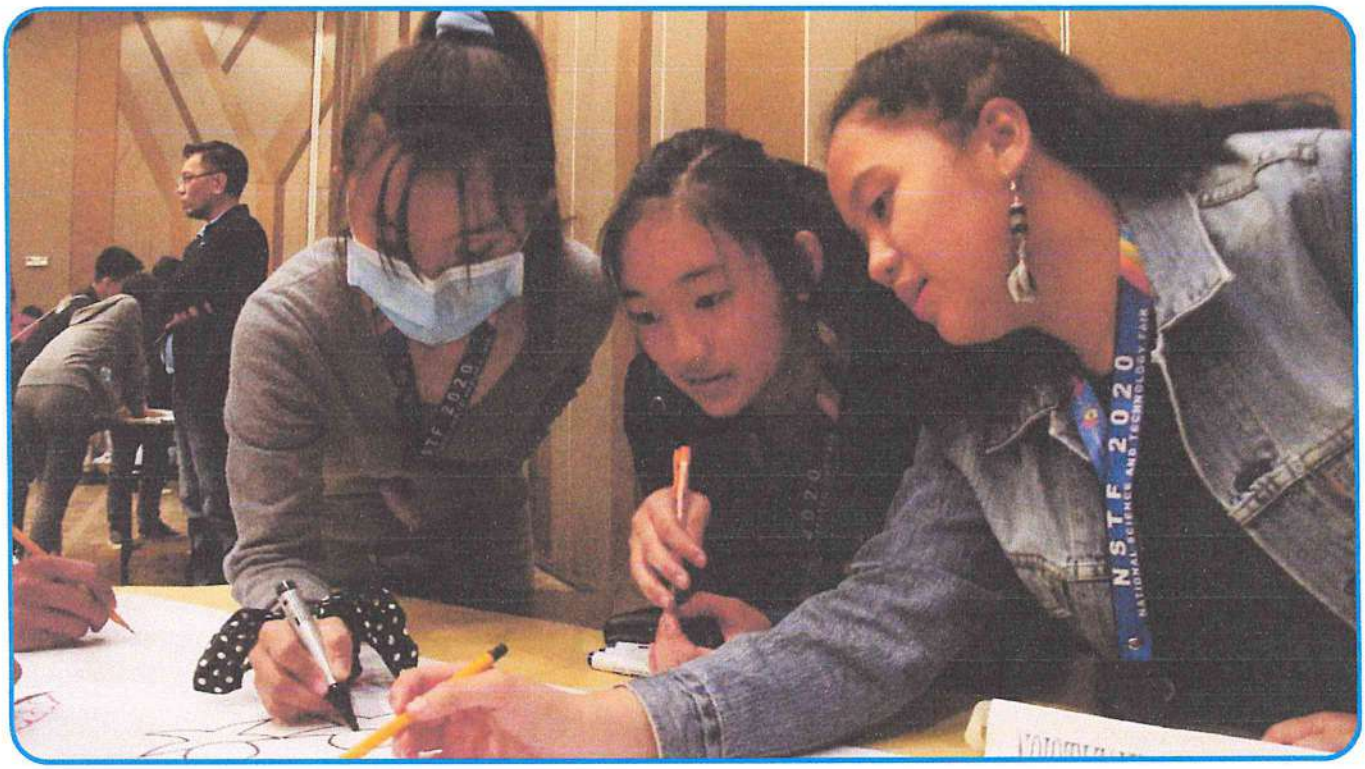
After:

1. Issuance of division memorandum regarding the winners of the DSTF and the schedule of cliniquing/mentoring/coaching of the regional representatives to the RSTF 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 division SRC for the final quality assurance.

C. Regional Level Science & Technology Fair

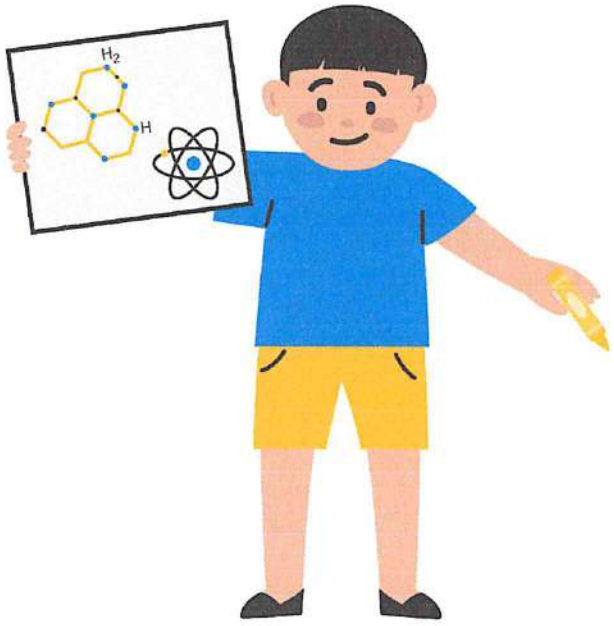
Before:

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).



During:

1. Registration of the learner and teacher participants.
2. Submission of the division shoutout and three (3) softbounded 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 Presenter/s, 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.



After:

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

Before:

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, required forms, certifications/pre-approvals, 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

reconsideration addressed to the SRC chairman explicitly stating the valid explanations to reconsider the disqualification of the entry.

10. Returning of the qualified NSTF manuscripts and other entry requirements for further revisions based on the listed comments and suggestions by the SRC in the RRR.

11. Issuance of regional memorandum regarding the list of qualified entries and names of official regional delegates and other participants based on the allowed number of representatives per region.

12. Final meeting of the TWG for the preparations needed for the conduct of the NSTF.

13. Preparation of the 1-minute video presentation for the regional shoutout, polo shirt uniform for the opening program, and souvenir items for the learners' mixer.

14. Online resubmission of the digital copies of manuscripts, other entry requirements and PowerPoint presentation for the STEM Congress to NSTF focal person with official endorsement by the regional office to the central office.

15. Online pre-registration of participants on or before the deadline.

During:

1. Registration and distribution of NSTF kits for the official regional delegates.

2. Submission of the regional shoutout and three (3) soft-bounded hard copies of color-coded manuscripts with tags to identify the revisions done based in the RRR.

3. Conduct of the regional poster-making activity.

4. Set-up for the project display that conforms with the display and safety regulations.

5. 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.

6. Orientation of the student participants on the general guidelines and procedures for the opening ceremony, learners' mixer, on-site evaluation, STEM Congress, public viewing of exhibits, symposiums/ conferences, and awarding ceremony. Learners and other official delegates are encouraged to participate in all NSTF activities.

7. Conduct of the RSTF opening program and on-site judging of the entries.

8. SRC/BOJ final evaluation of the qualified research entries through the STEM Congress. It is suggested for the student researchers to be in their formal attire during the conduct of NSTF on-site evaluation and congress.

9. Deliberation of the SRC/BOJ and awarding of the Top 3 Winners for the individual and team projects in each research category and the NSTF Best 8 Projects. Other special awards (e.g., Best Poster, Best Presenter/s, Best Shoutout) and sponsored honorable awards by institutions/organizations may also be given to learners and advisors.

After

A. Online Mentoring Phase:

1. Orientation of the student researchers and advisors of the Best 8 Projects who will undergo online mentoring/coaching in the preparations needed for the submission of entries for pre-evaluation to International Science and Engineering Fair.

2. Each project will be assigned to a particular set of mentors who will be providing comments and suggestions in the research plan, manuscript, and other entry requirements. Mentees will communicate with their mentors thru e-mail and use the assigned project code (e.g., LS-I, LS-T, etc.) as the subject. It is also recommended to cc the NSTF focal person and advisor in all e-mail threads for the monitoring of the progress of the mentoring/coaching phase.

3. Clustered mentors assigned in each study will discuss their individual comments and suggestions to agree on the set of recommendations to be

provided to the assigned mentee/mentees. If there will be dissensus among the members of the group of mentors, the chair will mediate and interpose if necessary.

4. The assigned focal person among the mentors will communicate the recommendations to the mentee/mentees thru e-mail in which the learners are expected to provide responses regarding the revisions needed.

5. All mentors will evaluate and deliberate on the eight projects for the selection of the official entries which will proceed to the cliniquing phase to be sent to international research and innovation competitions. It is also recommended that the learners with the guidance of their advisors and parents secure necessary travel requirements such as a passport and travel clearance for minors from the Department of Social Welfare and Development (DSWD). DSWD also requires obtaining copies of the Philippine Statistics Authority (PSA) birth certificate and marriage certificate of parents, affidavit of consent by both parents, affidavit of support by sponsoring agency, passport of companion, and official invitation from ISEF.

B. Science Camp (One-week cliniquing phase before ISEF):

1. The members of the Philippine Team will undergo pre-departure orientation regarding the preparations needed for the entry requirements (manuscript, project plan, ISEF forms, data logbook, certifications and/or prototype models), travel documents, schedule of activities of the ISEF, and other related activities.

2. The student researchers will undergo communication and presentation skills enhancement training with the mentors.

REFERENCES

School, Division, Region, and National Science and Technology Fair Handbook
First Edition May 2023

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.pdfb

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

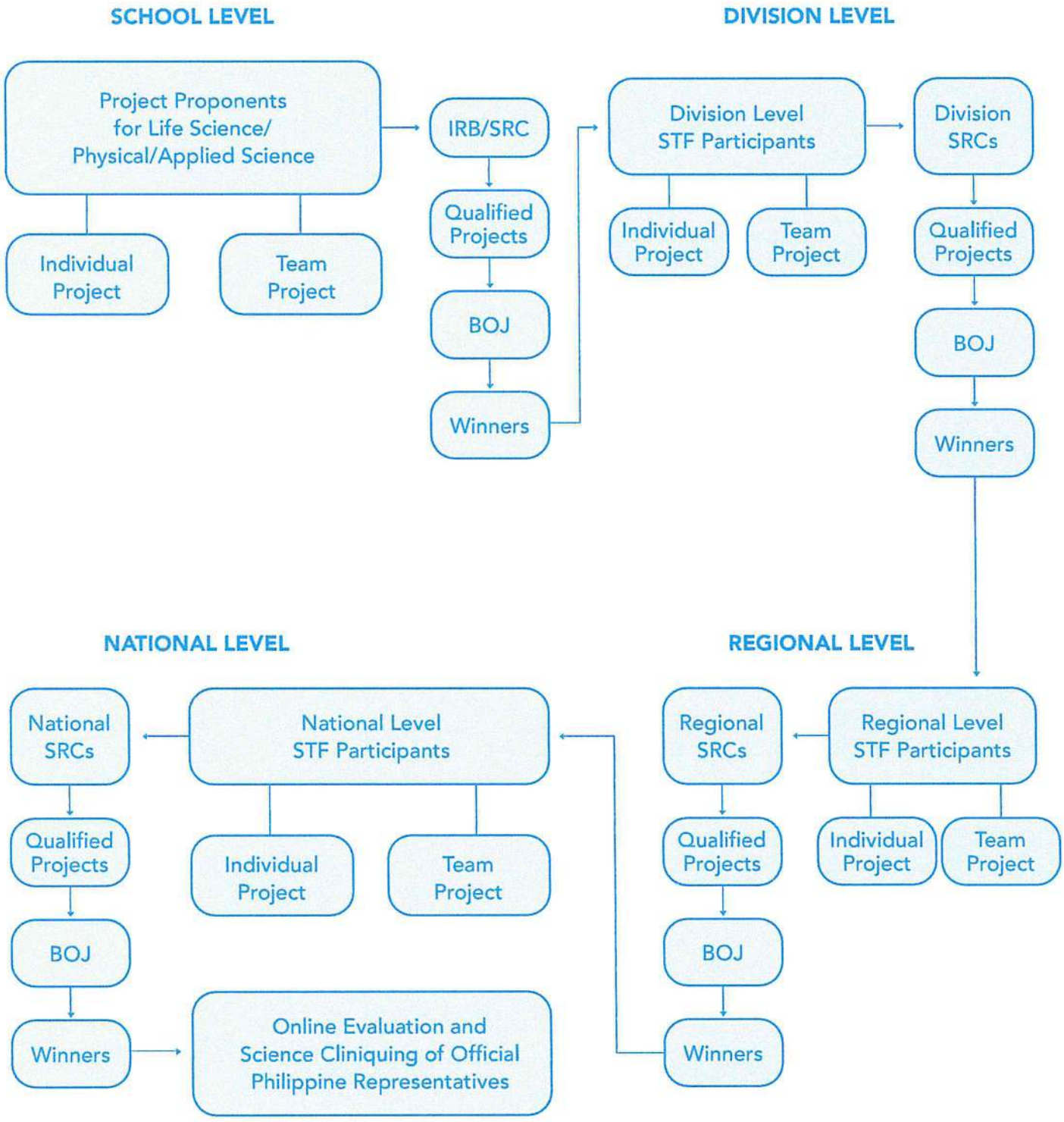
Intel ISEF Affiliated Fair Judging Guidelines
https://www.sefi.org/hsef/IntelISEF%20Judging%20Guidelines.pdf

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

APPENDICES

APPENDIX 1:

Schematic Diagram of the Flow of STF Activities



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?

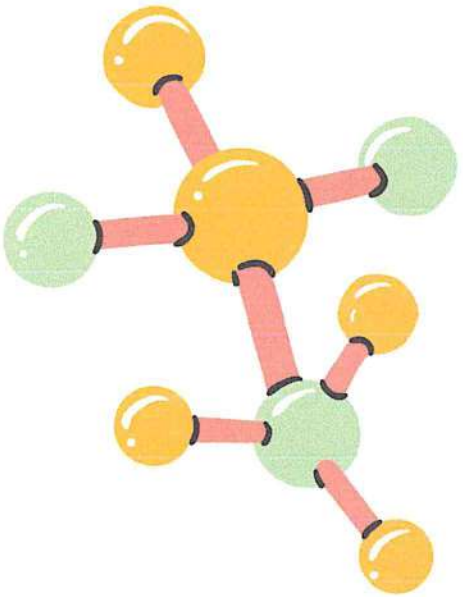
- ✓ Introduce the concepts and notation needed to specify your research question, methods, and results precisely.
- ✓ Define relevant terms, and explain prior/ background results. (Novel concepts developed as part of your project can be presented here or in Section 4, as appropriate.)

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 researchin great detail, including experimental procedures and statistical methods. Anyinformation that is unnecessary to include in a brief explanation should be saved for thewritten research paper or the project exhibit board.

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

If the abstract text includes special characters, such as mathematical symbols, which can'tbe translated electronically, spell out the symbol.

Do not include acknowledgements in the abstract. There should be no references tomentors, 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 ofresearch or competition. Plagiarism, use or presentation of other research's work as one'sown and fabrication of data will not be tolerated. Fraudulent projects are disqualifiedfrom the competition.

APPENDIX 3:

TUKLAS Display Board Format and Safety Guidelines

Display Guidelines

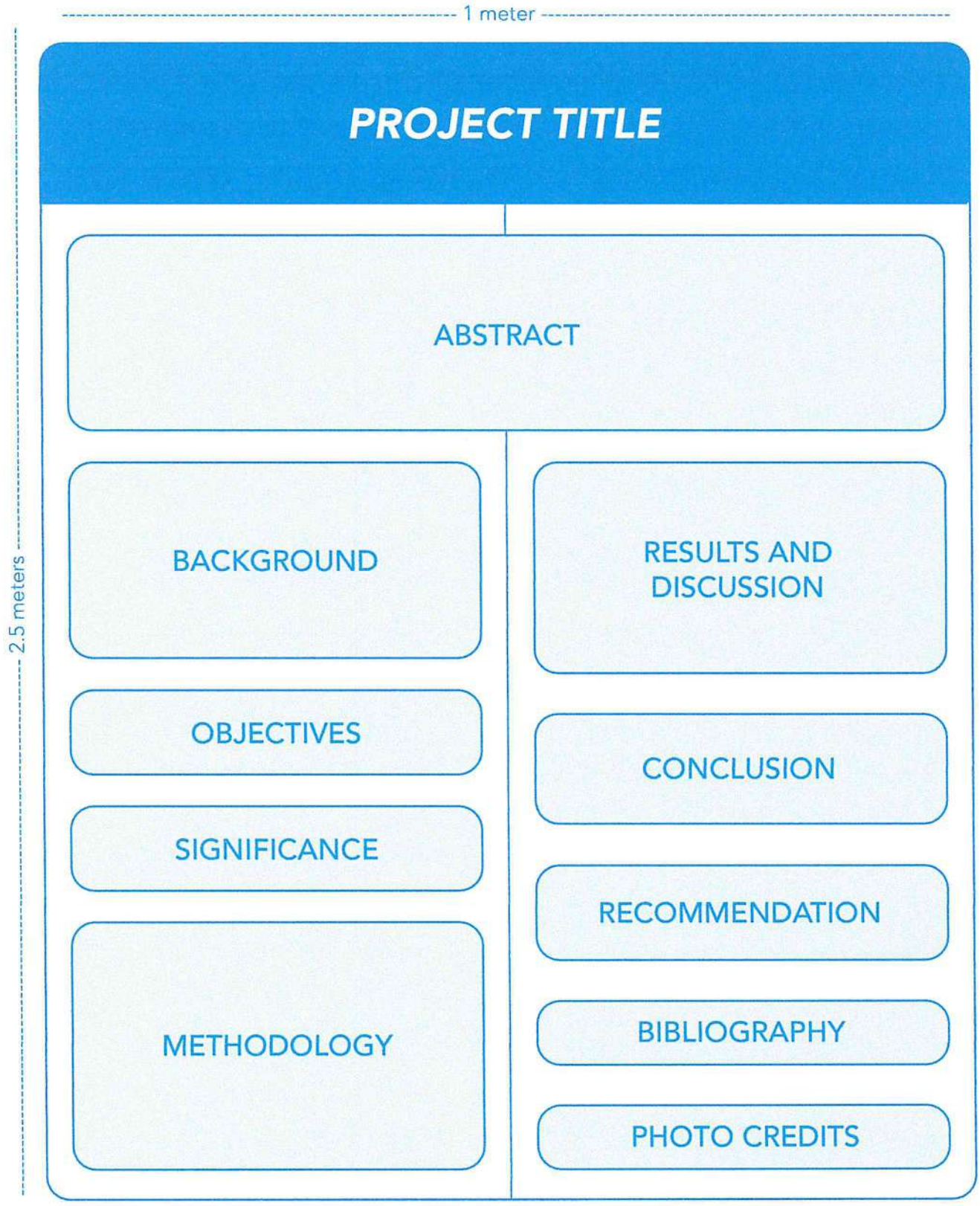
The project display using photo paper summarizes the research project and must focus on the proponent's work for this year's study, and if applicable, with only minimal reference to previous research. Tarpaulins will not be used in any level of Science Fair competition in support of the environmental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



Research Logbook:

These forms do NOT need to be in this particular order, just present in the logbook.

1. Signed ISEF Abstract
2. Signed Checklist for Adult Sponsor Form 1
3. Student Checklist Form 1A
4. Research Plan
5. Signed Approval Form 1B
6. All other pertinent ISEF forms

Photography/Images:

Display of photographs other than that of the learner/s MUST have a photo release signed by the subject, and if under 18, also by the guardian of the subject.

Any photographs, visual image, chart, table and/or graph is allowed if:

1. It is not deemed offensive or inappropriate (which included images/photos showing vertebrate animals/ humans in surgical, necrotizing or dissection situations) by the SRC, Display & Safety Committee.
2. It has a credit line of origin.
3. If it is from the Internet, magazine, newspaper, journal, etc. and a credit line is attached.
4. It is a photograph or visual depiction of the finalist.
5. It is a photograph or visual depiction for which a signed consent form is at the project.
6. Images used as backgrounds must also be credited.

Items NOT Allowed to be Displayed with the Project:

1. Awards, medals, business cards, flags, logos, CDs, DVDs, flash drives, brochures, booklets, endorsements, giveaway items and/or acknowledgements (graphic or written) unless the item(s) are an integral part of the project.
2. Postal addresses, Internet, email, and/or social media addresses, QR codes, telephone, and/or fax numbers of a student.
3. Active internet or email connections as part of the display or operating the project.

Safety Guidelines

Items NOT Allowed at the Project Display:

1. Living organisms, including plants
2. Soil, sand, rock, and/or waste samples, even if permanently encased in acrylic
3. Taxidermy specimens or parts
4. Preserved vertebrate or invertebrate animals
5. Human or animal food
6. Human or animal parts or body fluids
7. Plant materials (living, dead or preserved) that are in their raw, unprocessed or non-manufactured state (Exception: manufactured construction materials used in building the project or display)
8. All chemicals including water
9. All hazardous substances or devices (i.e.: poisons, drugs, firearms, weapons, ammunition, reloading devices, lasers, etc.)
10. Dry ice or other sublimating solids
    Sharp items (i.e.: syringes, needles, pipettes, knives, etc.)
11. Flames or highly flammable materials
12. Batteries with open-top cells
13. Glass or glass objects unless deemed by the Display
14. & Safety Committee to be an integral and necessary part of the project
15 Lasers or laser pointers
16. Any apparatus deemed unsafe by the Scientific Review Committee, the Display & Safety Committee of the Fair

Other Safety Restrictions:

1. Any inadequately insulated apparatus producing extreme temperatures that may cause physical burns is not allowed.
2. Any apparatus with unshielded belts, pulleys, chains, or moving parts with tension or pinch points must be for display only.
3. Project sounds, lights, odors or any other display items must not be distracting.
4. The Display & Safety Committee, and/or the Scientific Review Committee in various level of the Science Fair reserve the right to remove any project for safety reasons or to protect the integrity of the NSTF and its rules and regulations.

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 ($p = 0.000261$, $a = 0.05$). 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 Bractechlamys vexillum, Perna viridis, and Placuna placenta 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, 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 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 B. vexillum and P. placenta 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 7:

Checkpoints for SRC Review

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	All student researchers	Before experimentation	Required for all Projects
Form 1B - Approval Form	All student researchers	Before experimentation	Required for all Projects
Research Plan/Project Summary	All student researchers	Before experimentation	Required for all Projects
Form 1C - Regulated Research Institution/ Industrial Setting Form	Adult supervising	After experimentation	Required if research is 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 involves human participants, vertebrate animals, potentially hazardous biological agents and hazardous
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	Before experimentation	Required if research involves human participant **if in a regulated research institution use institutional approval forms*
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 Veterinarian Designated Supervisor/Qualified Scientist	Before experimentation	Required for all research involving vertebrate animals that is conducted in a school/home/field research site

TYPE OF FORM	WHO WILL FILL OUT?	WHEN TO FILL OUT?	WHEN IT IS REQUIRED?
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
Form 6A – Potentially Hazardous Biological Agents Risk Assessment Form	Student Researcher Qualified Scientist/Designated Supervisor Scientific Review Committee	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.
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 Projects Form	Student Researcher	Before experimentation	Required for projects that are a continuation/ progression in the same field of study as previous project.

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 10:

Report of the Conduct of the STF Format

The consolidated report of the conduct of the STF must be submitted to the National Science and Technology Fair Technical Working Group before the conduct of the National Level Science Fair. The report should include the following:

1. Title

2. Table of Contents

3. Introduction/Rationale

4. Detailed Information

- General information
- SRC Deliberation (include the results, findings and recommendations)
- Program of Activities (day-to-day activities)
- List of Entries (include a brief profile of the research adviser of each entry)
- List of Winners (Research & Innovation Congress)
- Trend Analysis (results from 3 consecutive years)
- Financial Report

5. Conclusions

6. Recommendations

7. Appendix

APPENDIX 11:

List of Forms and Documents Required for Submission in All Levels of Competition

The following are the forms and manuscripts to be submitted in ALL levels of the competition:

1. Research Plan

2. Forms for all the Projects

- Checklist for Adult Sponsor
- Student Checklist (1A)
- Research Plan (NOTE: No need to attach the Research Plan Instructions)
- Approval Form (1B)
- Regulated Research Institutional/Industrial Setting Form (1C)

3. Forms depending on the type of research (e.g. involving humans, vertebrate animals, hazardous chemicals, etc.

- Qualified Scientist Form (2)
- Risk Assessment Form (3)
- Human Participants Form (4)
- Human Informed Consent Form
- Vertebrate Animal Form (5A)
- Vertebrate Animal Form (5B)
- Potentially Hazardous Biological Agents Risk Assessment Form (6A)
- Human and Vertebrae Animal Tissue Form (6B)
- Continuation Project Form (7)

4. Abstract (Maximum of 250 words)
The abstract should include the following:

- Purpose of the experiment
- Procedure
- Data conclusion
- The abstract may NOT include the following:
  - Acknowledgement
  - Work of procedures done by the mentor

5. Research Paper

6. Project Evaluation Form

7. Scanned copy of the log book in PDF format

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 13:

Innovation Expo Judges Form

TITLE OF THE PROECT		
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.	25%	
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.	20%	
MARKET ATTRACTIVENESS This criterion examines the commercial viability of the innovation. It considers the potential market demand, scalability, and sustainability of the project.	15%	
FUNCTIONALITY AND TECHNOLOGY VALIDATION This criterion evaluates the practical functionality and performance of the innovation. It assesses how well the innovation functions in real-world scenarios and whether it meets the intended objectives. Researchers should demonstrate evidence of successful testing, validation, or prototypes to support the claims of the innovation's effectiveness.	25%	
PRESENTATION AND PRODUCT PRESENTATION This criterion looks at how effectively the innovation and research are presented to the audience. It assesses the clarity, coherence, and visual appeal of the poster display and any supplementary materials. Additionally, researchers' ability to communicate the innovation's key features, benefits, and impact in a compelling and engaging manner is considered. The criterion also considers how well the researchers answer questions and engage with expo attendees during their presentation.	15%	
TOTAL		
COMMENTS:		

_____

Signature Over Printed Name
Date Signed:

APPENDIX 14:

Official List of Participants Template

This template is to be used in the official endorsement of the school to division, division to region, and region to national.

Region: _____ Division: _____

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

Data	Total	Data	
Total No. of Female		Total No. of Robotics and Intelligent Machines Project Entries	
Total No. of Male		Total No. of Mathematics and Computer Sciences Project Entries	
Total No. of Participating Schools		Total No. of Grade 7 Student Participants	
Total No. of Participating Private Schools		Total No. of Grade 8 Student Participants	
Total No. of Participating SP STEM Schools		Total No. of Grade 9 Student Participants	
Total No. of Participating SP STEM Male Student		Total No. of Grade 10 Student Participants	
Total No. of Participating SP STEM Female Student		Total No. of Grade 11 Student Participants	
Total No. of Individual Project Entries		Total No. of Grade 12 Student Participants	
Total No. of Team Project Entries		Total No. of Mathematics and Computer Sciences Project Entries	
Total No. of Life Sciences Project Entries		Total No. of Participating Teachers	
Total No. of Physical Sciences Project Entries			

Prepared by:_____
Mobile No:_____
School/Office Address:_____
Regional Coordinator: _____

APPENDIX 15:

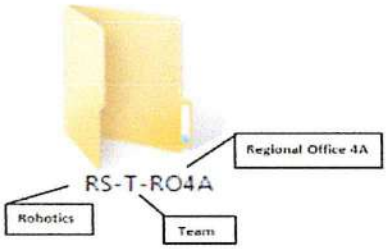
Suggested Timeline of Activities for the Conduct of Research Projects

	ACTIVITIES
May-June	**Preliminaries** • Refine and finalize research project plan • Carry out risk assessment and plan for precautionary measures to minimize hazards involved in the conduct of the research project • Communicate with the parent/guardian of researchers and secure a signed consent which allows the learner/s to conduct the research project • Check the attainability and availability of materials/test subjects, laboratories/ facilities, protocols/procedures, and experts in the field • Submission of letter of intent for collaboration with higher education institutions/research institutions • Submission of memorandum of agreement/understanding, research project • plan, list of materials and equipments to be used, timeline of activities, and budget plan to research institution and qualified scientist • Revision of research project plan (if needed) • Preparation of International Science and Engineering Fair (ISEF) forms and data logbook • Secure Institutional Animal Care and Use Committee (IACUC) permit (for studies which will be using vertebrate animals) and IRB/SRC approval forms
June-July	• Preparation and collection of materials • Conduct of experimentation (e. g. Plant/Animal Identification/Authentication, Extraction Procedures, Preparation of Treatments, Material/Product Development, Pre-screening Tests, Testing Proper, Waste Disposal) • Data Collection and Analysis
August-September	• Writing of the Research Paper (Introduction, Methodology, and Results and Discussion) • Preparation of requirements for LSTF SRC screening (manuscript, ISEF forms, data logbook, display board) • Local Science and Technology Fair
September-October	• Submission of school entries for DSTF SRC screening • Division Science and Technology Fair SRC Screening • Announcement of Qualified Entries for DSTF • Submission of revised copies of manuscript marked with tags based on the SRC recommendations/ suggestion and other documents • Division Science and Technology Fair

October-November	• Submission of division entries for RSTF SRC screening • Regional Science and Technology Fair SRC Screening • Announcement of Qualified Entries for RSTF • Submission of revised copies of manuscript marked with tags based on the SRC recommendations/ suggestion and other documents • Regional Science and Technology Fair
December	• Submission of regional entries for NSTF SRC screening
January	• National Science and Technology Fair SRC Screening • Announcement of Qualified Entries for NSTF • Submission of revised copies of manuscript marked with tags based on the SRC recommendations/ suggestion and other documents
February-March	• National Science and Technology Fair • Announcement of National Level STF Winners
April	• Science Cliniquing • Preparation for travel requirements (DSWD travel clearance, passport, and others)
May	• International Science and Engineering Fair (ISEF)

APPENDIX 16:

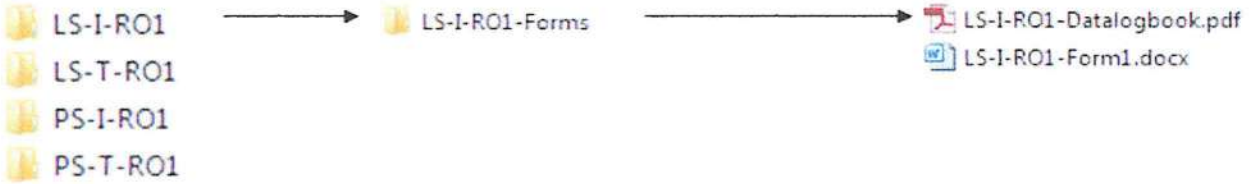
Project Labeling and Coding



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



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 17:

End of Activity Report Format for the Regional/ Division/School Science and Technology Fair

The End of Activity Report for the Regional/Division/School Science and Technology Fair should contain the following sections:

1. **Title Page:** Include the name of the region/division and a clear, concise title for the report.

2. **Table of Contents:** List all the sections of the report and their corresponding page numbers to help readers navigate the document.

3. **General Information:** Provide a broad overview of the fair, including its purpose, goals, and objectives, as well as information on its structure, participants, and timeline.

4. **Results:** Present the results of the fair, including statistics and data related to the number of entries, participants, and winners, as well as any trends or patterns observed.

5. **List of Activities Conducted:** Provide a detailed list of the activities conducted during the fair, including dates, locations, and participants.
   List of Entries: Provide a list of all entries submitted to the fair, including the title, author, and category.

6. **List of Winners:** List the winners of the fair, including the title, author, and category.

7. **Financial Report:** Provide a detailed financial report of the fair, including expenditures and income, as well as any funding sources.

8. **Conclusions:** Summarize the main findings and conclusions of the fair, and provide recommendations for future action.

9. **Recommendations:** Provide specific recommendations for future action, based on the findings of the fair, and identify areas for improvement.

10. **Appendix:** Include any additional materials, such as detailed data tables, charts, or other relevant documents, that support the findings of the report.

APPENDIX 18:

Review & Recommendation Report

Project Title: _____

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

Instruction: Please put a check [] in the appropriate column and if necessary, write recommendations on 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 complete 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 synopsis of background information 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 for 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? ii. Parameters should NOT be too strict to allow for 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 ANIMAL, POTENTIALLY HAZARDOUS BIOLOGICAL AGENTS (see attached Research Plan/Project Summary Instructions)			
E. HUMAN PARTICIPANTS RESEARCH. Does it provide for 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 use b. Potential impact or contribution of research c. Detailed procedures d. Detail 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 AGENTS RESEARCH. Does it provide for the following? a. Biosafety Level (BSL) Assessment and Determination b. Source of agent, specific cell line. c. Safety precautions d. Methods of disposal			
4. Approval Form 1B (for ALL students)			
5. Abstract			

VERY IMPORTANT: See Part II, Risk Assessment (3) for

a. Studies involving protists, archaea and similar microorganisms.
b. Research using manure for composting, fuel production, or other non-culturing experiments.
c. Commercially-available color change coliform water test kits. These kits must remain sealed and must be properly disposed.
d. Studies involving decomposition of vertebrate organisms (such as in forensic projects).
e. 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, Drug Enforcement Administration (DEA)-controlled substances; completed and signed BEFORE start of experimentation. **Is it properly accomplished and signed by the 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. **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?**			
11. Vertebrate Animal Form (5B) – for researches involving vertebrate animals that is conducted at a Regulated Research Institution. **A. Does it have IACUC approval BEFORE experimentation?** **B. Is it properly accomplished, approved and signed by a QUALIFIED SCIENTIST/ PRINCIPAL INVESTIGATOR?**			
12. Potentially Hazardous Biological Agents Risk Assessment Form (6A) – for researches involving microogranisms, rDNA, fresh/ frozen tissue (including primary cell lines, human and other primate established cell lines and tissue cultures), blood, blood products and body fluids. **A. Does it have SRC/IACUC/ Institutional Biosafety Committee (IBC) approval BEFORE experimentation?** **B. Is it properly accomplished, approved and signed by a QUALIFIED or DESIGNATED SUPERVISOR BEFORE experimentation?** **C. Is it properly accomplished, approved and signed by the SRC BEFORE experimentation?** **D. 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 the 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?			
13. Continuation/Research Progression Projects Form (7) – for researches that are a continuation/progression in the same field of study as a previous research. **A. 13.This form MUST be accompanied by the PREVIOUS YEAR'S ABSTRACT and RESEARCH PLAN** **B. Is it properly accomplished, approved and signed by the student/s?**			

PART 3: RESEARCH PAPER (See attached IMRAD Format)	**COMPLETE**	**INCOMPLETE**	**RECOMMENDATIONS**
1. COVER PAGE A. Is the research title present? B. Part 3 1 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 the 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 of 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. Are there (in MLA format) possible Researcher Notes, the research paper's Works Cited, and 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. 4.Does it clearly and concisely state the CONCLUSIONS OF THE RESEARCH?			

VERY IMPORTANT: There should be NONE of the following:

a. Acknowledgements of the research institutions and/or mentors with which the student were working
b. Self-promotions and external endorsements
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 Student Checklist (1A)?			
3. Does the END DATE in the logbook match the END DATE in Student Checklist (1A)?			
4. Are all the 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 data tables, and the like?			
6. Does the logbook show 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: _____

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

Checklist for Adult Sponsor (1)

This completed form is required for ALL projects.

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

Student's Name(s): _____

Project Title: _____

1. ☐ I have reviewed the ISEF Rules and Guidelines, including the science fair ethics statement.
2. ☐ I have reviewed the student's completed Student Checklist (1A) and Research Plan/Project Summary.
3. ☐ I have worked with the student and we have discussed the possible risks involved in the project.
4. ☐ The project involves one or more of the following and requires prior approval by an SRC, IRB, IACUC or IBC:
   - ☐ Humans
   - ☐ Vertebrate Animals
   - ☐ Potentially Hazardous Biological Agents
     - ☐ Microorganisms ☐ rDNA ☐ Tissues
5. ☐ Items to be completed for **ALL PROJECTS**
   - ☐ Adult Sponsor Checklist (1)
   - ☐ Student Checklist (1A)
   - ☐ Research Plan/Project Summary
   - ☐ Approval Form (1B)
   - ☐ Regulated Research Institutional/Industrial Setting Form (1C) (when applicable; after completed experiment)
   - ☐ Continuation/Research Progression Form (7) (when applicable)

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

☐ **Humans,** including student designed inventions/prototypes. (Requires prior approval by an Institutional Review Board (IRB); see full text of the rules.)
- ☐ Human Participants Form (4) or appropriate Institutional IRB documentation
- ☐ Sample of Informed Consent Form (when applicable and/or required by the IRB)
- ☐ Qualified Scientist Form (2) (when applicable and/or required by the IRB)

☐ **Vertebrate Animals** (Requires prior approval, see full text of the rules.)
- ☐ Vertebrate Animal Form (5A)-for projects conducted in a school/home/field research site (SRC prior approval required
- ☐ Vertebrate Animal Form (5B)-for projects conducted at a Regulated Research Institution. (Institutional Animal Care and Use Committee (IACUC) approval required prior experimentation.)
- ☐ Qualified Scientist Form (2) (Required for all vertebrate animal projects at a regulated research site or when applicable)

☐ **Potentially Hazardous Biological Agents** (Requires prior approval by SRC, IACUC or IBC, see full text of the rules.)
- ☐ Potentially Hazardous Biological Agents Risk Assessment Form (6A)
- ☐ Human and Vertebrate Animal Tissue Form (6B)-to be completed in addition to Form 6A when project involves the use of fresh or frozen tissue, primary cell cultures, blood, blood products and body fluids.
- ☐ Qualified Scientist Form (2) (when applicable)
- ☐ The following are exempt from prior review but require a Risk Assessment Form 3: projects involving protists, archae and similar microorganisms, for projects using manure for composting, fuel production or other non-culturing experiments, projects using color change coliform water test kits, microbial fuel cells, and projects involving decomposing vertebrate organisms.

☐ **Hazardous Chemicals, Activities and Devices** (No SRC prior approval required, see full text of the rules.)
- ☐ Risk Assessment Form (3)
- ☐ Qualified Scientist Form (2) (required for projects involving DEA-controlled substances or when applicable)

☐ **Other**
- ☐ Risk Assessment Form (3)

☐ **I attest to the information checked above and that I have read and agree to abide by the science fair ethics statement.**

Adult Sponsor's Printed Name	Signature	Date of Review (mm/dd/yy)
Phone	Email	

Student Checklist (1A)

This form is required for ALL projects.

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

   Email: _____ Phone: _____

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

2. Title of Project: _____

   _____

3. School: _____ School Phone: _____
   (if multiple schools, list of the team leader or list all schools).

   School Address: _____

   _____

4. Adult Sponsor: _____ Phone/Email: _____

5. Does this project need SRC/IRB/IACUC or other pre-approval? ☐ Yes ☐ No Tentative start date: _____

6. Is this a continuation/progression from a previous year? ☐ Yes ☐ No
   a. If yes, attach the previous year's ☐ Abstract **and** ☐ Research Plan/Project Summary
   b. Explain how this project is new and different from previous years on
   ☐ Continuation/Research Progression Form (7); include forms for all previous years

7. This year's experimentation/data collection (include forms for all previous years):

   _____ _____

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

8. Where will you conduct your experimentation? (check all that apply)

   ☐ Research Institution ☐ School ☐ Field ☐ Home ☐ Other: _____

9. Source of Data:

   ☐ Collected self/mentor ☐ Other List all URL(s) in Research Plan: _____

10. List the name and address of all non-home and non-school work site(s), whether you worked there virtually or on-site:

    Name _____ _____

    Address: _____ _____

    _____ _____

    Phone/email _____ _____

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

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

Research Plan/Project Summary Instructions

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

1. The Research Plan is to be written prior to experimentation following the instructions below to detail the rationale, research question(s), methodology, and risk assessment of the proposed research.
2. If changes are made during the research prior to competing in an affiliated fair, such changes can be added to the original research plan as an addendum, recognizing that some changes may require returning to the IRB or SRC for appropriate review and approvals. If no additional approvals are required, this addendum serves as a project summary to explain research that was conducted.
3. If no changes are made from the original research plan, no project summary is required.
   - Some studies, such as an engineering design or mathematics projects, will be less detailed in the initial project plan and will change through the course of research. If such changes occur, a project summary that explains what was done is required and can be appended to the original research plan.
   - The Research Plan/Project Summary should include the following:
     a. **RATIONALE:** Include a brief synopsis of the background that supports your research problem and explain why this research is important and if applicable, explain any societal impact of your research.
     b. **RESEARCH QUESTION(S), HYPOTHESIS(ES), ENGINEERING GOAL(S), EXPECTED OUTCOMES:** How is this based on the rationale described above?
     c. Describe the following in detail:
        - **List of materials:**
        - **Procedures:** Detail all procedures and experimental design including list of materials, methods for data collection, and when applicable, the source of data used. Describe your project delineating what you will do and what will be done by your mentor.
        - **Risk and Safety:** Identify any potential risks and safety precautions needed.
        - **Data Analysis:** Describe the procedures you will use to analyze the data/results.
     d. **BIBLIOGRAPHY:** List major references (e.g. science journal articles, books, internet sites) from your literature review. If you plan to use vertebrate animals, one of these references must be an animal care reference.

Items 1–4 below are subject-specific guidelines for additional items to be included in your research plan/project summary as applicable.

1. **Human participants research:**
   a. **Participants:** Describe age range, gender, racial/ethnic composition of participants. Identify vulnerable populations (minors, pregnant women, prisoners, mentally disabled or economically disadvantaged).
   b. **Recruitment:** Where will you find your participants? How will they be invited to participate?
   c. **Methods:** What will participants be asked to do? Will you use any surveys, questionnaires or tests? If yes and not your own, how did you obtain? Did it require permissions? If so, explain. What is the frequency and length of time involved for each subject?
   d. **Risk Assessment:** What are the risks or potential discomforts (physical, psychological, time involved, social, legal, etc.) to participants? How will you minimize risks? List any benefits to society or participants.
   e. **Protection of Privacy:** Will identifiable information (e.g., names, telephone numbers, birth dates, email addresses) be collected? Will data be confidential/anonymous? If anonymous, describe how the data will be collected. If not anonymous, what procedures are in place for safeguarding confidentiality? Where will data be stored? Who will have access to the data? What will you do with the data after the study?
   f. **Informed Consent Process:** Describe how you will inform participants about the purpose of the study, what they will be asked to do, that their participation is voluntary and they have the right to stop at any time.
2. **Vertebrate animal research:**
   a. Discuss potential ALTERNATIVES to vertebrate animal use and present justification for use of vertebrates.
   b. Explain potential impact or contribution of this research.
   c. Detail all procedures to be used, including methods used to minimize potential discomfort, distress, pain and injury to the animals and detailed chemical concentrations and drug dosages.
   d. Detail animal numbers, species, strain, sex, age, source, etc., include justification of the numbers planned.
   e. Describe housing and oversight of daily care.
   f. Discuss disposition of the animals at the end of the study.
3. **Potentially hazardous biological agents research:**
   a. Give source of the organism and describe BSL assessment process and BSL determination.
   b. Detail safety precautions and discuss methods of disposal.
4. **Hazardous chemicals, activities & devices:**
   a. Describe Risk Assessment process, supervision, safety precautions and specific methods of disposal.
   b. Safety Data Sheets are not necessary to submit with paperwork.

Approval Form (1B)

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

1. To Be Completed by Student and Parent

a. Student Acknowledgment:

- I understand the risks and possible dangers to me of the proposed research plan.
- I have read the ISEF Rules and Guidelines and will adhere to all International Rules when conducting this research.
- I have read and agree to uphold all aspects of the student researcher ethics statement.

Student researchers are expected to maintain the highest standards of honesty and integrity. Scientific fraud and misconduct are not condoned at any level of research or competition. Such practices include but are not limited to plagiarism, forgery, use or presentation of other researcher's work as one's own, and fabrication of data. Fraudulent projects will fail to qualify for competition in affiliated fairs and ISEF.

Student's Printed Name	Signature	Date Acknowledged (mm/dd/yy) (Must be prior to experimentation.)

b. Parent/Guardian Approval: I have read and understand the risks and possible dangers involved in the **Research Plan/Project Summary**. I consent to my child participating in this research.

Parent/Guardian's Printed Name	Signature	Date Acknowledged (mm/dd/yy) (Must be prior to experimentation.)

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

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

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

The SRC/IRB has carefully studied this project's **Research Plan/Project Summary** and all the required forms are included. My signature indicates approval of the **Research Plan/Project Summary** before the student begins experimentation.

SRC/IRB Chair's Printed Name

Signature

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

OR

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

This project was conducted at a regulated research institution **(not home or high school, etc.)**, was reviewed and approved by the proper institutional board before experimentation and complies with the ISEF Rules. **Attach (1C) and any required institutional approvals (e.g. IACUC, IRB).**

SRC Chair's Printed Name

Signature

Date of Signature (mm/dd/yy) (May be after experimentation)

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

SRC Approval After Experimentation and Before Competition at Regional/State/National Fair

I certify that this project adheres to the approved **Research Plan/Project Summary** and complies with all ISEF Rules.

Regional SRC Chair's Printed Name	Signature	Date of Approval (mm/dd/yy)
State/National SRC Chair's Printed Name *(where applicable)*	Signature	Date of Approval (mm/dd/yy)

Regulated Research Institutional/Industrial Setting Form (1C)

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

Student's Name(s) _____

Title of Project _____

To be completed by the Supervising Adult in the Setting (NOT the Student(s)) after experimentation:
(Responses must be on the form as it is required to be displayed at student's project booth; please do not print double-sided.)

Research was supported at my work site:

1. The student experience at your work site included:
   - Used equipment and/or received data ☐ Yes ☐ No
   - Minimal interaction with our group ☐ Yes ☐ No
   - Mentored by me or someone else from our group ☐ Yes ☐ No
   - Worked as a sub-set of our ongoing research ☐ Yes ☐ No
   - Had an independent project from our group ☐ Yes ☐ No
2. Please describe the independent and/or creative work done by the student in any phase of the project, but particularly in developing the hypotheses or engineering goals of the project
3. Detail the student's role in conducting the research (e.g. data collection, specific procedures performed). Differentiate what the student observed and the student actually did.
4. Provide details regarding data provided to the student:
5. Did the student(s) work on the project as part of a group? ☐ Yes ☐ No
   Were there other high school students present? If yes, please list the students names and describe how their work was related or different from the work of this projecct.
6. If this project is under a grant and needs to be acknolwedged, please list the grant statement here.

I attest that the student has conducted the work as indicated above and that any required review and approval by institutional regulatory board (IRB/IACUC/IBC) has been obtained. Copies are attached if applicable. I further acknowledge that the student will be presenting this work publicly in competition and I have communicated with the student research regarding any requirements for my review and/or restrictions of what is publicized.

Direct Supervisor's Printed Name	Signature	Title
Institution		Date Signed (must be after experimentation) (mm/dd/yy)
Education/Experience/Training		Email/Phone

Qualified Scientist Form (2)

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

Student's Name(s) _____

Title of Project _____

_____

To be completed by the Qualified Scientist:

Scientist Name: _____

Educational Background: _____ Degree(s): _____

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

_____ _____

Position/Institution: Email/Phone:

1. Have you reviewed the ISEF rules relevant to this project and the science fair ethics statement relevant to this project? ☐ Yes ☐ No
2. Will any of the following be used?
   a. Human participants ☐ Yes ☐ No
   b. Animals ☐ Yes ☐ No
   c. Potentially hazardous biological agents (microorganisms, rDNA and tissues, including blood and blood products) ☐ Yes ☐ No
   d. Hazardous substances and devices ☐ Yes ☐ No
3. Will this study be a sub-set of a larger study? ☐ Yes ☐ No
4. Will you directly supervise the student? ☐ Yes ☐ No
5. Did you provide any data; if yes, please provide source or describe ☐ Yes ☐ No

To be completed by the Qualified Scientist:

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

_____
Qualified Scientist's Printed Name

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

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

I certify that I have reviewed the Research Plan/Project Summary and have been trained in the techniques to be used by this student, and I will provide direct supervision.

_____
Direct Supervisor's Printed Name

_____
Experience/Training of Designated Supervisor

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

_____ _____
Phone email

Risk Assessment Form (3)

Must be completed before experimentation; recommended for all projects. May be required for projects involving Human Participants, Hazardous Chemicals, Materials or Devices or Potentially Hazardous Biological Agents.

Student's Name(s) _____

Title of Project _____

_____

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

1. Identify and assess the risks and hazards involved in this project.

2. a) List all hazardous chemicals, activities or devices to be used; b) identify and list all microorganisms to be used that are exempt from pre-approval (see Potentially Hazardous Biological Agent rules).

3. Describe the safety precautions and procedures that will be used to reduce the risks. If you conducted field work, include permits received and safety plans, as applicable.

4. Describe the specific disposal procedures that will be used (when applicable).

5. List the source(s) of safety information.

To be completed and signed by the Direct Supervisor (or Qualified Scientist, when applicable):
I agree with the risk assessment and safety precautions and procedures described above. I certify that I have reviewed the Research Plan/Project Summary and the International Rules, including the science fair ethics statement and will provide direct supervision.

Direct Supervisor's Printed Name	Signature	Date of Review (mm/dd/yy)

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

Position/Institution	Phone or email contact information

Human Participants Form (4)

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

Student's Name(s) _____ Title of Project _____

Adult Sponsor _____ Phone/Email _____

MUST BE COMPLETED BY STUDENT RESEARCHER(S) IN COLLABORATION WITH THE ADULT SPONSOR/DIRECT SUPERVISOR/QUALIFIED SCIENTIST:

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

BELOW – IRB USE ONLY

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

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

1. Risk Level (check one) : ☐ Minimal Risk ☐ More than Minimal Risk (a risk assessment form 3 is required).
2. Qualified Scientist (QS) Required (Form 2): ☐ Yes ☐ No
3. Risk Assessment Required (Form 3): ☐ Yes ☐ No
4. Written Minor Assent and written parental permission required for minor participants: ☐ Yes ☐ Not applicable (No minors in this study)
5. Written Informed Consent required for participants 18 years or older: ☐ Yes ☐ No ☐ Not applicable (No participants 18 yrs or older in this study)
6. Facility for "protected groups" used, written approval has been obtained: ☐ Yes ☐ No

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

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

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

Print Name below	Degree/Professional License	
Signature	Date (prior to experimentation)	Email

Educator

Print Name below	Degree/Professional License	
Signature	Date (prior to experimentation)	Email

School Administrator

Print Name below	Degree/Professional License	
Signature	Date (prior to experimentation)	Email

Human Informed Consent Form

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

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

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

Student Researcher(s): _____

Title of Project: _____

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

Purpose of the project:

If you participate, you will be asked to:

Time required for participation:

Potential Risks of Study:

Benefits:

How confidentiality will be maintained:

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

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

Voluntary Participation:

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

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

Adult Informed Consent or Minor Assent Date Reviewed & Signed: _____ (mm/dd/yy)

_____ _____

Research Participant Printed Name: Signature:

Parental/Guardian Permission (if applicable) Date Reviewed & Signed: _____ (mm/dd/yy)

_____ _____

Parent/Guardian Printed Name: Signature:

Vertebrate Animal Form (5A)

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

Student's Name(s)_____

Title of Project_____

_____

To be completed by Student Researcher:

1. Common name (or Genus, species) and number of animals used.

2. Describe completely the housing and husbandry to be provided. Include the cage/pen size, number of animals per cage, environment, bedding, type of food, frequency of food and water, how often animal is observed, etc. Add an additional page as necessary.

3. What will happen to the animals after experimentation?

4. Attach a copy of wildlife licenses or approval forms, as applicable

5. The ISEF Vertebrate Animal Rules require that any death, illness or unexpected weight loss be investigated and documented by a letter from the qualified scientist, direct supervisor or a veterinarian. If applicable, attach this letter with this form when submitting your paperwork to the SRC prior to competition.

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

Level of Supervision Required for agricultural, behavioral or nutritional studies (select one):

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

The SRC has carefully reviewed this study and finds it is an appropriate study that may be conducted in a non-regulated research site.
Local or Affiliate Fair SRC Pre-Approval Signature:

SRC Chair Printed Name	Signature	Date of Approval (must be prior to experimentation) (mm/dd/yy)

To be completed by Veterinarian:

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

Printed Name	Email/Phone

Signature	Date of Approval (mm/dd/yy)

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

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

Printed Name	Email/Phone

Signature	Date of Approval (mm/dd/yy)

Vertebrate Animal Form (5B)

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

Student's Name(s) _____

Title of Project _____

Title and Protocol Number of IACUC Approved Project _____

To be completed by Qualified Scientist or Principal Investigator:

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

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

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

4. Did the student's project also involve the use of tissues?
   - ☐ No
   - ☐ Yes; complete Forms 6A and 6B

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

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

Qualified Scientist/Principal Investigator

Printed Name

Signature

Date (mm/dd/yy)

Potentially Hazardous Biological Agents Risk Assessment Form (6A)

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

Student's Name(s)_____

Title of Project_____

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

SECTION 1: PROJECT ASSESSMENT

1. Identify potentially hazardous biological agents to be used in this experiment. Include the strain, source, quantity and the biosafety level risk group of each microorganism.

2. Describe the biosafety level of the experimentation site.

3. Describe the procedures that will be used to minimize risk (personal protective equipment, safety cabinet type, etc.).

4. Describe the method of disposal of all cultured materials and other potentially hazardous biological agents. If BSL-2 laboratory, not at an RRI, include the BSL-2 checklist

SECTION 2: TRAINING

1. What training will the student receive for this project?

2. Experience/training of Direct Supervisor as it relates to the student's area of research (if applicable).

SECTION 3: For ALL CELL LINES, MICROORGANISMS AND TISSUES – To be completed by the QUALIFIED SCIENTIST or Direct Supervisor - Check the appropriate box(es) below:

☐ Experimentation on the microorganisms/cell lines/tissues to be used in this study will NOT be conducted at a Regulated Research Institution, but will be conducted at a (check one) ☐BSL-1 or ☐BSL-2 laboratory (include a copy of the checklist for BSL-2. [This study has been reviewed by the local SRC and the procedures have been approved prior to experimentation.]

☐ This project involves the culturing of Multi Drug Resistant Organisms (MDROs). It has been conducted in a BSL-2 or higher lab at a Regulated Research Institution and the required IBC pre-approval is attached.
Date of IBC approval _____

☐ Experimentation on the microorganisms/cell lines/tissues to be used in this study will be conducted at a Regulated Research Institution and was approved by the appropriate institutional board prior to experimentation; institutional approval forms are attached.
Origin of cell lines:_____ Date of IBC/IACUC approval _____

☐ Experimentation on the microorganisms/cell lines/tissues to be used will be conducted at a Regulated Research Institution, which does not require IACUC or IBC approval for this type of study.

CERTIFICATION–To be SIGNED by the QUALIFIED SCIENTIST or Direct Supervisor

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

QS/DS Printed Name Signature Date of review (mm/dd/yy)

Human and Vertebrate Animal Tissue Form (6B)

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

Student's Name(s) _____

Title of Project _____

To be completed by Student Researcher(s):

1. What vertebrate animal tissue will be used in this study? Check all that apply.
   - ☐ Fresh or frozen tissue sample
   - ☐ Fresh organ or other body part
   - ☐ Blood
   - ☐ Body fluids
   - ☐ Primary cell/tissue cultures
   - ☐ Human or other primate established cell lines

2. Where will the above tissue(s) be obtained? If using an established cell line include source and catalog number.

3. If the tissue will be obtained from a vertebrate animal study conducted at a research institution attach a copy of the IACUC certification with the name of the research institution, the title of the study, the IACUC approval number and a copy of IACUC approval. If human tissues were used, attach a copy of IRB approval.

To be completed by the Qualified Scientist or Direct Supervisor:

☐ I verify that the student will work solely with de-identified organs, tissues, cultures or cells that will be supplied to him/her by myself or qualified personnel from the laboratory; and that if vertebrate animals were euthanized they were euthanized for a purpose other than the student's research.

AND/OR

☐ I certify that the blood, blood products, tissues or body fluids in this project will be handled in accordance with the standards and guidance set forth in U.S. Occupational Safety and Health Act, 29CFR, Subpart Z, 1910.1030 - Blood Borne Pathogens.

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

Title	Phone/Email

Institution

Continuation/Research Progression Projects Form (7)

Required for projects that are a continuation/progression in the same field of study as a previous project. This form must be accompanied by the previous year's abstract and Research Plan/Project Summary.

Student's Name(s) _____

To be completed by Student Researcher: List all components of the current project that make it new and different from previous research.

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

Attached are:

☐ Previous year's Abstract and Research Plan/Project Summary, Year _____

☐ Previous Form 7s, if applicable.

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

Student's Printed Name(s)	Signature	Date of Signature (mm/dd/yy)