



Republic of the Philippines
Department of Education
Region VII, Central Visayas
Province of Bohol
TAGBILARAN CITY DIVISION
City of Tagbilaran



September 16, 2019

DIVISION MEMORANDUM
No. 471 s. 2019

DIVISION SCIENCE AND TECHNOLOGY FAIR 2019

TO: All Public Elementary & Secondary (JHS/SHS) School Principal
All Private & Elementary & Secondary (JHS/SHS) School Principal

1. This Office announces the conduct of the 2019 DIVISION SCIENCE AND TECHNOLOGY FAIR 2019 on the following dates:

Secondary (JHS/SHS)	October 2 , 2019	Cogon ES AV Hall
Elementary	October 3, 2019	Cogon ES AV Hall

2. The contest is on:

- Science Investigatory Project (SIP) for High School and Elementary Level -Students/Pupil Category
- Science Quiz (both Elementary and Secondary)
- Robot Intelligent Machine (RIM)
- Robot Games (age bracket category and by 500kg and 1000kg)
- Innovation Expo

3. The competition aims to:

- Promote Science consciousness among the youth
- Identify the most creative and the best Science researchers who will represent the Division in the 2019 Regional Science Fair sometime in November , 2019
- Select robotics players who will advance to the Regional Science and Technology Fair 2019..

4. Like in the previous years, there will be two clusters of entries: Cluster I- Life /Biological Science and Cluster II-Physical /Applied Science. Each Cluster has two categories: Individual Project category and Team Project Category

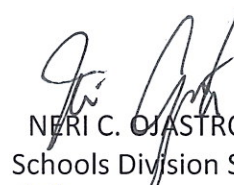

5. There is a slight change in the format of the display board. It is still made up of Illustration Board placed back to back but is no longer flipped. The black side is utilized but the dimension is also changed. Width is 1 meter and length is 1.5 meters (Please see the attached enclosures to DepEd Memorandum 113, s. 2019.

6. For more information on the manuscripts to be submitted in all levels of competition please, download the forms from <http://www.societyforscience.org/isef/rulesandguidelines>.

7. A registration fee of 400.00/participant for the Elementary and Secondary including the coaches will be collected upon registration to defray expenses for food and snacks, the certificates for the participants and the board of judges.

8. Expenses to the said activity is chargeable against local school funds/ MOOE/Canteen funds/PTA funds subject to the usual accounting and auditing rules and regulations.

9. For your action and compliance.


NERI C. OJASTRO, Ed.D, CESE
Schools Division Superintendent


GUIDELINES ON THE NATIONAL SCIENCE AND TECHNOLOGY FAIR 2019 - 2020

Similar to the previous national level fair, the National Science and Technology Fair (STF) for 2019 -2020 is an ISEF-affiliated fair. As such, the requirements for affiliated fairs should be met and followed as stated in the ISEF guidelines mentioned on the succeeding pages of this Memorandum.

1. The Science Fair

The Bureau of Curriculum Development of the Department of Education (DepEd-BCD) shall conduct the **National STF 2019 -2020** on **February 10 to 14, 2019**.

The STF aims to promote Science and Technology consciousness and a culture of innovation among the youth. The NSTF also aims to identify the most creative and innovative student researchers from the Junior and Senior High School who shall represent the country in the international Science research fairs.

In addition to the existing research competition, there shall be other activities within the fair as described below.

1.1 National Science Innovation Expo

Innovation Expo is designed to showcase products and innovation of learners. It aims to crowd-source and display Science and Technology innovations and solutions to everyday challenges. Furthermore, it also aims at developing appropriate technologies, in particular, by taking advantage of patent information for identifying suitable solutions to technical problems.

The format of the paper is found in **Enclosure No. 6**.

The region can send two (2) inventions.

Gawad Aglitekno (Ag - Agham, Li - Likha, Tek -Teknolohiya) shall be awarded to the most innovative invention exhibited at the fair.

2. The Research Competitions

The competitions will be conducted among Junior and Senior High School students from both public and private schools. The first place winners in each of the categories at the Regional level shall represent the region to the National STF competition as approved by the national Scientific Review Committee (SRC).

The competition will start at the school level advancing to the division, regional, national then to the international level. Regional Science High Schools (RSHSs) are **expected** to join the regional fair directly. RSHSs may submit only one entry per category or a maximum of six (6) projects in the regional fair.

The participation of schools in the NSTF shall be clustered into **three major categories**: Life Science, Physical Science, Robotics and Intelligent Machines and Science Innovation Expo. These major categories are further classified into different subcategories.

Life Science (LS)		Physical Science (PS)		Robotics and Intelligent Machines (RIM)		Science Innovation Expo(SIE)
Individual Project	Team Project	Individual Project	Team Project	Individual Project	Team Project	2 inventions (Individual or Team)

3. Levels of Research Competition

School/Division Level

The conduct of the school/division level shall be done on a weekend to conform with **DepEd Order No. 7, s. 2019 (Calendar of School Events and Activities For SY 2019-2020)**. The school and division level STF should refer to Enclosure No. 3 for the schedules of the 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
 - A. Checklist for Adult Sponsor
 - B. Student Checklist (1A)
 - C. Research Plan (NOTE: No need to attach the Research Plan Instructions)
 - D. Approval Form (1B)
 - E. Regulated Research Institutional/Industrial Setting Form (1C)
3. FORMS depending on the type of research (e.g involving humans, vertebrate animals, hazardous chemicals, etc.)
 - A. Qualified Scientist Form (2)
 - B. Risk Assessment Form (3)
 - C. Human Participants Form (4)
 - D. Human Informed Consent Form
 - E. Vertebrate Animal Form (5A)
 - F. Vertebrate Animal Form (5B)
 - G. Potentially Hazardous Biological Agents Risk Assessment Form (6A)
 - H. Human and Vertebrae Animal Tissue Form (6B)
 - I. Continuation Project Form (7)
4. Abstract (**Maximum of 250 words**)
The abstract should include the following:
 - A. Purpose of the experiment
 - B. Procedure
 - C. Data conclusion

The abstract may NOT include the following:

 - A. Acknowledgement
 - B. Work of procedures done by the mentor
5. Research Paper (Include the Title Page, Abstract, Main Body, and References)
6. Project Evaluation Form (see Enclosure No.11)
7. Scanned copy of the log book in pdf format

Project of proponents should have been screened by the Institutional Review Board (IRB)/Scientific Review Committee (SRC) at the school-level. All school level winners must be certified by the division SRC to join in the division-level fair.

The Division Science/Mathematics Supervisor shall be a member of the BOJ who shall determine the school/division winners of the different categories and fair divisions.

With the exception of RSHSs and PSHSs, students of both regular and science high schools of private and public high schools shall participate in the division-level STF.

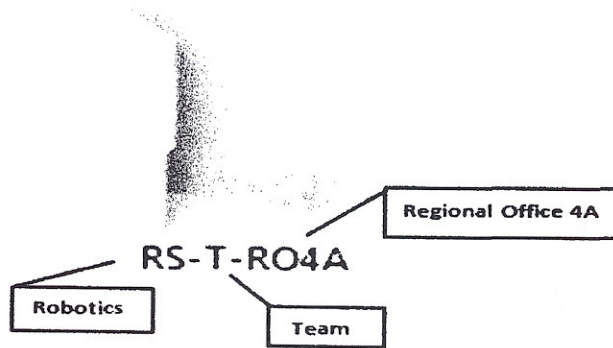
Winners at the school level shall be officially endorsed to the division office for the division-level. Likewise, the division-level winners shall be officially endorsed to the regional office.

Regional Level

The first place winners at the division level in both clusters shall be properly scrutinized by identified members of the SRC for the regional level competition.

The official list of the **first place winners at the regional level**, report on the conduct of STF, **hard and soft copies** of the manuscripts and other necessary documents shall be officially **endorsed by the Regional Office to DepEd Central Office through the Bureau of Curriculum Development**. The soft copies must be saved in the CD containing six (8) **folders representing the eight projects from each category**. Each folder must contain the manuscripts in **Pdf format** and another folder containing all the required forms including the the research logbook.

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-Form 1
		LS-I-RO1-Form 2
		LS-I-RO1-Logbook
<div style="display: flex; align-items: center; gap: 20px;"> <div style="text-align: left;"> LS-I-RO1 LS-T-RO1 PS-I-RO1 PS-T-RO1 </div> <div style="text-align: center;"> → </div> <div style="text-align: center;"> LS-I-RO1-Forms </div> <div style="text-align: center;"> → </div> <div style="text-align: left;"> LS-I-RO1-Datalogbook.pdf LS-I-RO1-Form1.docx </div> </div>		

The **REPORT OF THE CONDUCT** of the STF shall 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 the 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

National Level

The Finalists approved by the National SRCs of the eight (8) categories shall represent the region to the national-level STF to be conducted on February 10 to 14, 2020 at a venue to be announced later.

Furthermore, the final results of the deliberation of the National SRC’s and the National Board of Judges will be **final and irrevocable**.

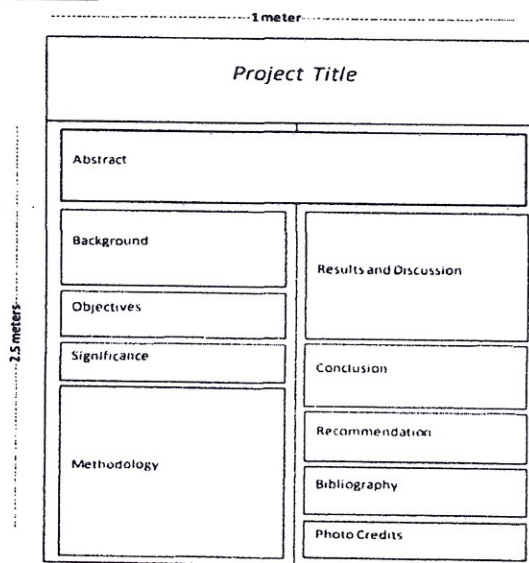
4. The Research Project

Science research projects must conform with international rules and standards published by the Society for Science and the Public, the **International Rules for Pre-college Science Research: Guidelines for Science and Engineering Fair 2020**. Each project is expected to have a Research Adviser and an Institutional Review Board (IRB) or a Scientific Review Committee (SRC).

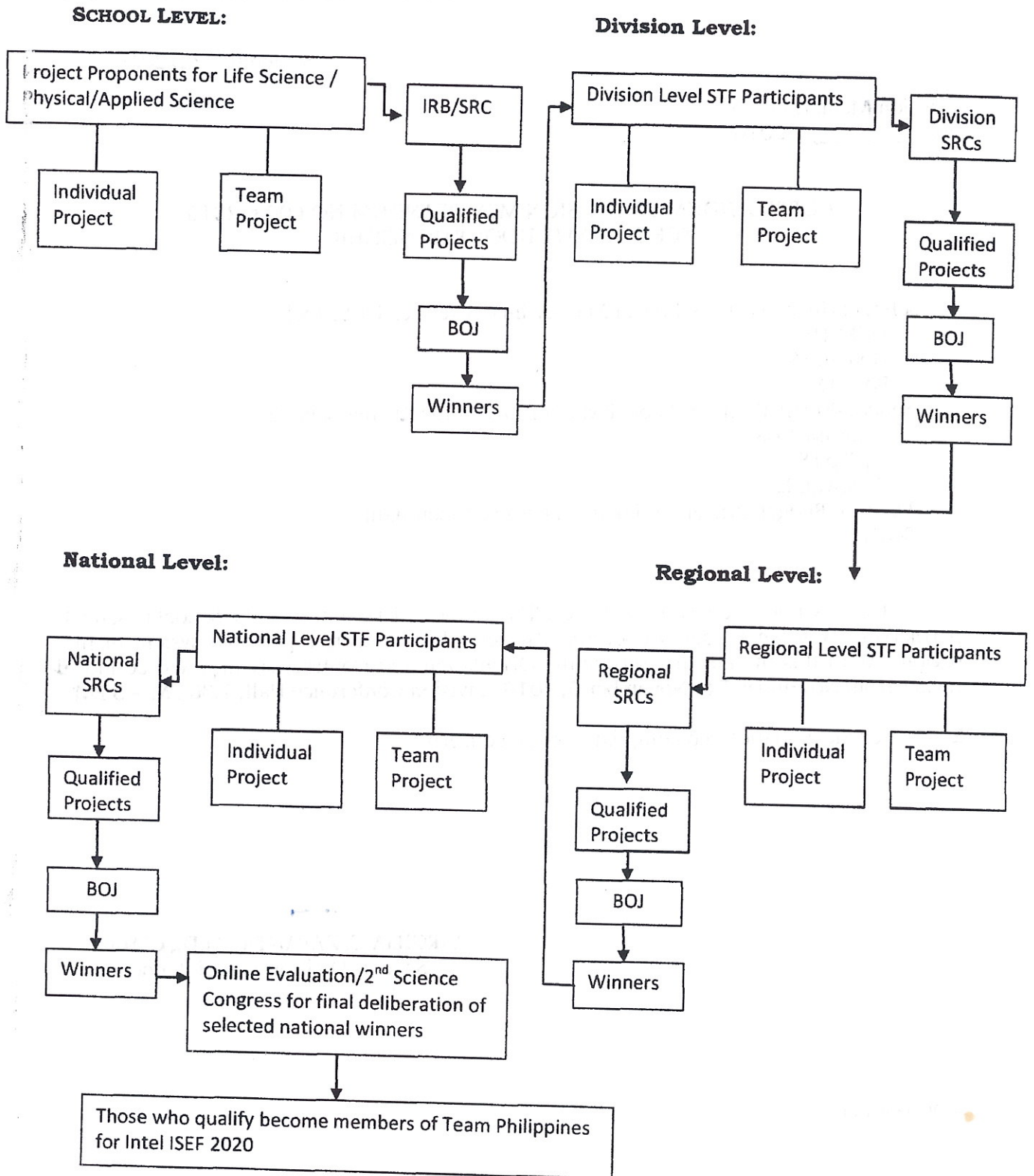
The research project should cover a maximum of twelve (12) continuous months from January 2019 to December 2019.

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

5. Exhibit - Format*



SCHEMATIC DIAGRAM OF THE FLOW OF STF ACTIVITIES



Format of Research Paper

Investigatory papers that were reviewed by the national SRCs in the past years were found to have inadequacies in the content, particularly in the areas cited below. To ensure that the investigatory papers are of good quality, students must adhere to the guidelines shown below. These can be found in the Guidelines and in the Student Handbook and Research Plan Instructions published in the website (<https://www.societyforscience.org>).

I. **Research Plan:** (This is compiled separately from the rest of the investigatory paper):
All projects should include the following:

- A. Question or Problem being addressed
- B. Goals /Expected Outcomes /Hypotheses
- C. Description in detail of method or procedures (The following are important and key items that should be included when formulating ANY AND ALL research plans.)
 - Procedures: Detail all procedures and experimental design to be used for data collection.
 - Data Analysis: Describe the procedures to be used to analyze the data/results that answer research questions or hypotheses.
- D. Bibliography: List at least five (5) 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.

II. **Project Data Book:**

A project data book is your most treasured piece of work. Accurate and detailed notes make a logical and winning project. Good notes show consistency and thoroughness to the judges and will help you when writing your research paper. Data tables are also helpful. They may be a little 'messy' but be sure the quantitative data recorded is accurate and that units are included in the data tables. Make sure you date each entry.

III. **Abstract:**

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

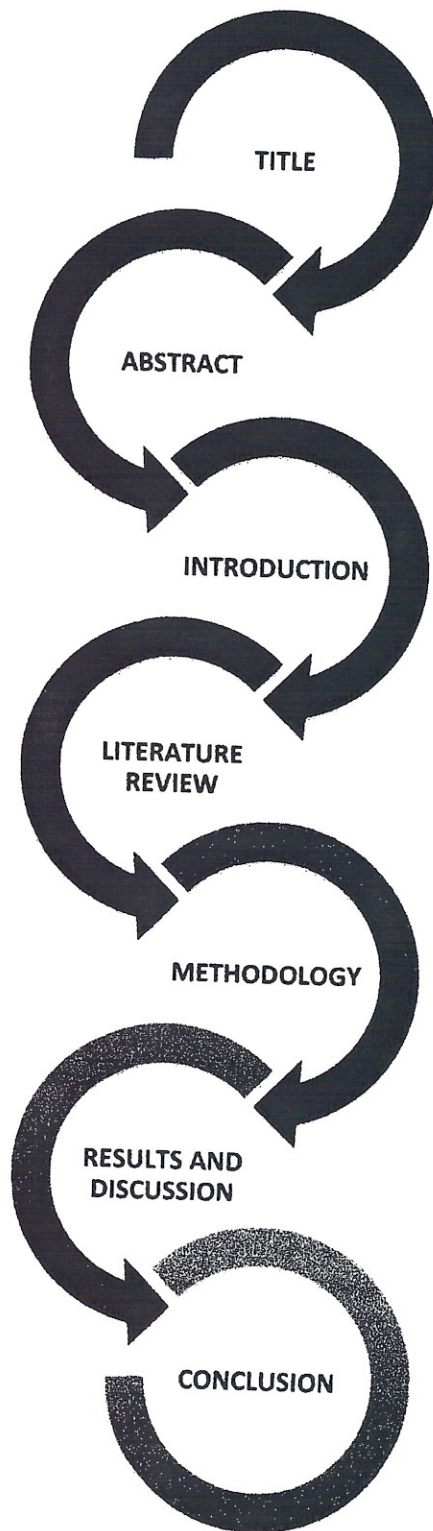
If the project is a continuation from a previous year, the abstract should summarize the current year's work only. If mention of supporting research from previous year(s) is necessary, it must be minimal.

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

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

IV **Research Paper:**

A research paper should be prepared and available along with the project data book and any necessary forms or relevant written materials. A research paper helps organize data as well as thoughts. A good paper includes the following sections.



Format of Paper Invention Report

Invention Report Paper:

- a) **Title Page and Table of Contents:** The title page and table of contents allows the reader to follow the organization of the paper quickly.
- b) **Introduction:**
- 1) **Features and Specifications** – This describes the details of your invention.
 - 2) **Market Trends and Opportunities** – This part of the report must include three items: what inspired you to develop this invention, an explanation of what problem your invention will solve, and describe in detail how you determined that the invention that you created did not already exist. Explain what products are already on the market that are somewhat like your invention and describe how yours differs.
- c) **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.
- d) **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?
- f) **Conclusions:** This discusses the potential applications, possible customer benefits, and the impact of the problem in solving problems and issues of today and tomorrow.
- g) **Acknowledgements:** You should always credit those who have assisted you, including individuals, businesses and educational or research institutions.
- h) **References/Bibliography:** 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.php>

For more information about this event please contact Ms. Anna Liza Chan at annaliza.chan@deped.gov.ph for details.

Format of Display Board for the Innovation Expo

6.1 Sample Format of Display Board for Science Innovation Expo

Title	The title should be short but would capture the essence of the product/invention
Picture	picture of the product/invention only
Overview	What problem is solved by the invention? What are the existing solutions and what limitations do these solutions have?
Key Features	What are the novelty features of this invention?
Benefits and Impact	What are the benefits/impact of this invention to humans?
Developers' Name	Who is/are the inventors?

Specifications:

Each Display Board must have a 38" x 48" dimensions (portrait style)

Judging Criteria:

The following **criteria** are used to evaluate each project:

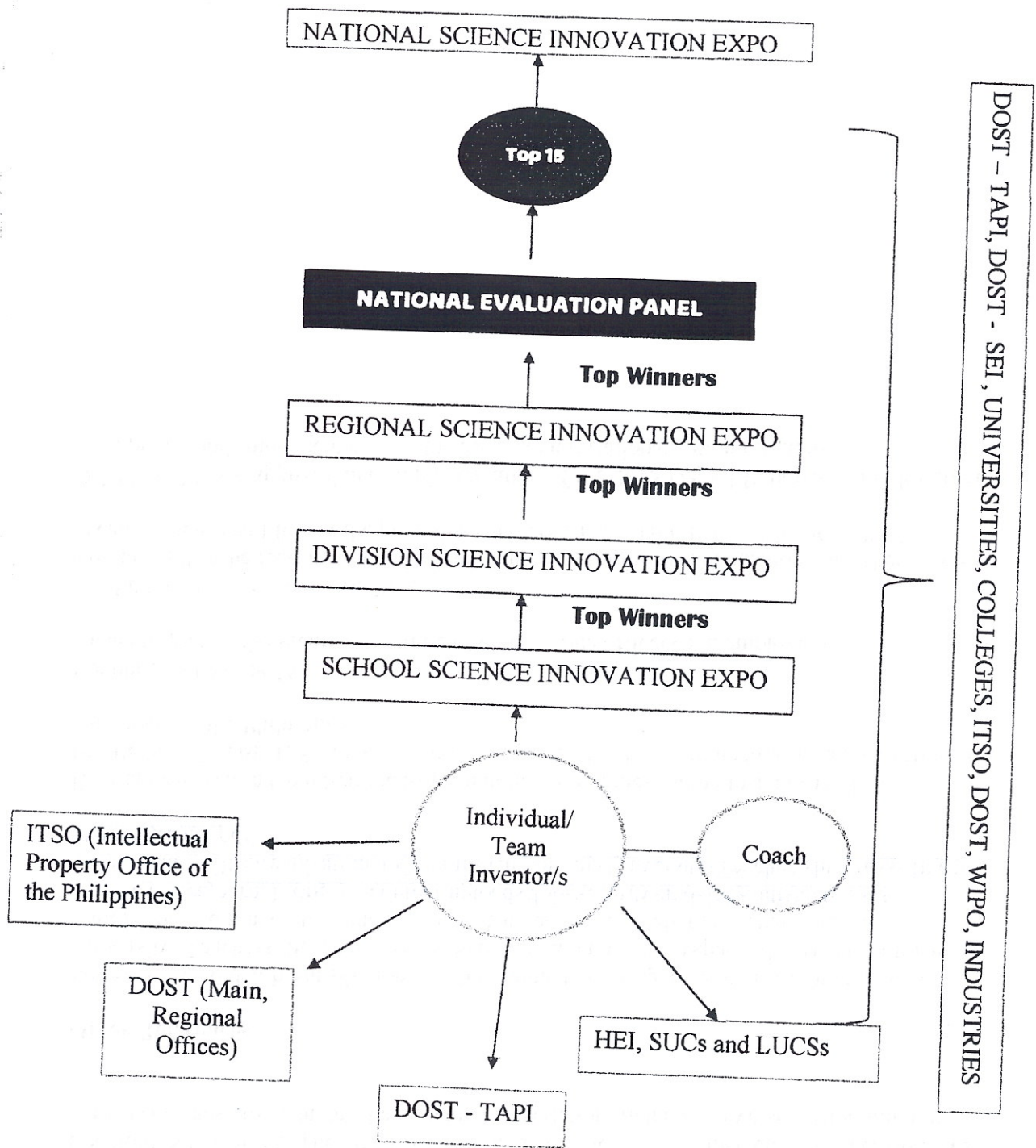
- (a) *Originality & Innovation*..... (30 %)
- (b) *Community Connection & Impact*.....(25 %)
- (c) *Functionality and Quality*.....(25%)
- (d) *Utilization of Patent Information*.....(20%)

The following are the **members of the evaluation panel** in each level:

A group eight or more judges composed of the ff. listed below shall be members of the evaluation panel who will select the qualified winners in each level:

- (a) patent experts
- (b) industry experts
- (c) business experts
- (d) business professionals
- (e) scientists
- (f) field experts
- (g) regional/division supervisors

National Science Innovation Expo - Process Flow



UPDATED CHECKPOINTS FOR SRC REVIEW

Source: Society for Science and the Public

This document was developed to provide guidance for an SRC to review a project after experimentation.

TYPE OF FORM	WHO WILL FILL OUT?	WHEN TO FILL OUT?	WHEN IT IS 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 conducted in a regulated research institution, industrial setting or any work site other than home, school or field
Form 2 - Qualified Scientist Form	Qualified Scientist/Adult Supervising	Before experimentation	Required if research involving human participants, vertebrate animals, potentially hazardous biological agents and hazardous
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 <i>*if in a regulated research institution use institutional approval forms</i>
Form 4A - Human Informed Consent Form	Student Researcher/s Research Participant	Before experimentation	Required if research involves human participant
Form 5A - Vertebrate Animal Form	Student Researcher/s Scientific Review Committee Veterinarian Designated Supervisor/Qualified Scientist	Before experimentation	Required for all research involving vertebrate animals that is conducted in a school/home/field research site
Form 5B - Vertebrate Animal Form	Student Researcher/s Qualified Scientist	Before experimentation	Required for all research involving vertebrate animals that is conducted in Regulated Research Institution
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.

CHECKLIST FOR ADULT SPONSOR (1)

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

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

STUDENT CHECKLIST (1A)

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

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

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

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

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

RESEARCH PLAN/POST PROJECT SUMMARY

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

Human Participants:

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

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

Animals:

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

Look for any potential FTQ items such as a study conducted at home, school or field that should have been done at an RRI, no indication of preapproval, any animal

deaths due to experimental procedures, weight loss $\geq 15\%$ in any group or subgroup, toxicity studies, studies designed to kill, studies which cause more than momentary pain or suffering, predator/prey, inappropriate water or food restriction, euthanasia by student, etc. Ensure that an allowable embryonic study didn't hatch and become a vertebrate study that is not permitted.

PHBA's: (Potentially Hazardous Biological Agents)

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

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

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

Hazardous Chemicals, Activities, or Devices:

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

APPROVAL FORM (1B)

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

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

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

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

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

REGULATED RESEARCH INSTITUTION FORM (1C)

The information provided by the scientist on this form must be consistent with what the student answered on other forms. It must not be filled out by the student. This form is posted so the judges can easily see exactly what the student did rather than what the mentor or others in the research group did. All information must be on the

form not "see attached." This form may only be from a university, college, or industrial site and may not be from their high school.

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

Questions:

1. "Have you reviewed the rules" helps determine the amount of oversight and if an error was made in following the rules, if this an adult problem or a student problem or both.

2. "Is this a subset of your work" helps differentiate student research from mentor research.

3. "How did student get idea" helps determine originality by student.

4. "Was student part of a research group" indicates whether student worked with another high school student, which is only allowed for team projects not individual, or was part of a larger team of adult researchers, undergraduate or graduate students, which is allowed. Students are judged only on their own work, so it needs to be clear what part of the study was done by the entire group or the mentor and what was the student's work.

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

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

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

QUALIFIED SCIENTIST FORM (2)

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

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

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

RISK ASSESSMENT FORM (3)

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

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

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

HUMAN SUBJECTS FORM (4)

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

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

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

HUMAN INFORMED CONSENT FORM

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

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

VERTEBRATE ANIMAL FORM (5A)

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

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

VERTEBRATE ANIMAL FORM (5B)

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

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

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

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

PHBA FORM (6A)

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

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

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

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

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

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

HUMAN AND VERTEBRATE ANIMAL TISSUE FORM (6B)

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

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

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

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

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