Republic of the Philippines
Department of Education
REGION IV-A CALABARZON

5 May 2022

Regional Memorandum

REGIONAL SCIENCE AND TECHNOLOGY FAIR 2022

To **Schools Division Superintendents**

1. With reference to DepEd Memorandum No. 38, s. 2022, DepEd CALABARZON thru the Curriculum and Learning Management Division (CLMD), shall spearhead the **Regional Science and Technology Fair 2022** on **June 27 – July 1, 2022** via online platform.

2. The main objective of this year's RSTF is to empower the youth and cultivate innovation, and creativity amid the changing world. The RSTF also aims to showcase competence in addressing community problems for sustainable development and to maximize their potential of being inquisitive and creative in dealing with real-life problems.

3. The virtual RSTF will showcase the following event and competitions:
   a. Siyensikula – an original video creation competition.
   b. Likha – A Research Proposal Competition
   c. #SteMTokperiments – a Tiktok Science Experiment Competition.

4. Participation in the school, division and regional Science and Technology Fair is **voluntary.** The CLMD office will conduct the selection and screening process of our entry and participants in the Regional Science and Technology Fair. The announcement of regional finalist and awarding ceremony will be on **July 8, 2022** via FB live.

5. All entries must be received not later than **June 20, 2022** at **5:00 PM**. Entries received after the deadline will no longer be evaluated/judged. Entries shall be submitted to the link:

Siyensikula	https://tinyurl.com/SiyensikulaRSTF2022
Likha	https://tinyurl.com/LikhaRSTF2022
STEMtokperiments	https://tinyurl.com/STEMtokperimentRSTF2022

6. Winners for each category under Regional Level will receive certificate of recognition and will be the official entry of the Region to the National Level. All participants will receive certificate of participation.

7. The documents below are enclosed for the information and guidance of all concerned.

Address: Gate 2, Karangalan Village, Cainta, Rizal
Telephone Nos.: 02-8682-5773/8684-4914/8647-7487
Email Address: region4a@deped.gov.ph
Website: depedcalabarzon.ph

(Enclosure No. 1 in Reference to the DepEd Memorandum No. 038, s. 2022)

SIYENSIKULA MECHANICS

1. This competition is open to all Junior and Senior High School students from both Public and Private Schools in CALABARZON, A maximum of **three (3) students** may collaborate on a single video entry. Collaboration of the participants and coaching may be done remotely such as, but not limited to, online meetings, email messaging, and all available online collaboration platforms.

2. The participant/s must discuss a difficult topic under **Physical Sciences, Life Sciences, Mathematics,** or an **Engineering** concept in a clear, creative, and engaging manner through video presentation that is **not more than (3) minutes**. The participants can discuss the topic in English and/or Filipino.

3. All contents in the video must be original and are owned by the participant/s. Entries may include personal experiences and thoughtful observations. Videos must reflect that the student has carefully reviewed and examined the topic.

4. All creative visual tools such as animations, simulations, physical demonstrations, or visual aids are allowed. Entries with photos and videos which are derivative works will automatically be **disqualified.**

5. Each division may send a **only one (1) official entry** to the Regional Siyensikula Competition. They shall be properly endorsed by the Schools Division Superintendent through an endorsement letter on or before the deadline of submission at the regional level on **June 20, 2022**.

6. Entries must be submitted via email at marvelino.niem@deped.gov.ph following this subject format: "SIYENSIKULA_SDO_VideoTitle" (ex SIYENSIKULA_SDOTanauanCity_Change).

7. The email should include: (1) the name of the participant, (2) a Youtube video link attachment of the video entry, and (3) a pdf file of the video script along with the references in the Chicago Manual of Style. Non-submission of any of the required documents for the competition category will automatically be disqualified.

8. There will be two (2) stages in the judging process:

   a. **PEER-TO-PEER REVIEW** - The Peer-to-Peer Review is the first phase of judging. Entries will be reviewed and scored by at least five (5) other contestants. The Peer-to-Peer review process is an educational experience and desires with good faith in providing an honest and sincere assessment for each entries. The contest committee will assign peers who will review the entries of other contestants. The project with the highest score will receive a special award. The criteria for judging are found in Enclosure No. 2.

   b. **EVALUATION AND SELECTION COMMITTEE REVIEW** - The Evaluation and Selection Committee will review and score all the video entries based on the criteria for judging found in Enclosure No. 2.

Enclosure No. 1	Siyensikula – Mechanics
Enclosure No. 2	Siyensikula – Criteria/Peer to Peer Evaluation Tool
Enclosure No. 3	Siyensikula Waiver and Certification
Enclosure No. 4	Likha – Mechanics and Criteria
Enclosure No. 5	Likha – Rubric Evaluation Tool (Screening)
Enclosure No. 6	Likha – Rubric Evaluation Tool (Final Judging)
Enclosure No. 7	Likha – Project Proposal Template
Enclosure No. 8	STEMtokperiments – Mechanics and Criteria
Enclosure No. 9	Timeline RSTF 2022

8. For questions and clarifications, please get in touch with **JOB S. ZAPE, JR.**, CLMD Chief, and **MARVELINO M. NIEM**, Education Program Supervisor at (02) 647-7487 loc. 420.

9. Immediate and widest dissemination of this Memorandum is desired.

FRANCIS CESAR B. BRINGAS
Regional Director

cc: clmd/ mmn

9. The evaluation results of the Evaluation and Selection Committee are **independent** of the results of the Peer to Peer Evaluation. The entry with the highest percentage in the final stage shall be declared as Champion and will be given a medal and a certificate.

10. All the winning entries will receive certificates and will be posted on the official Facebook page of the CLMD CALABARZON and DepEd TAYO CALABARZON with the permission and proper acknowledgment of the creators/ participants. Participants must submit a duly notarized Certification. (Enclosure No. 3)

(Enclosure No. 2 in Reference to the DepEd Memorandum No. 038, s. 2022)

SIYENSIKULA EVALUATION TOOL

CRITERIA	POINTS					
	0	1	2	3	4	5
Engagement	Failed to establish engagement and did not hold viewer's attention.	Somewhat interesting but did not hold viewer's attention for the entire length of the video-	Fairly interesting and held viewer's attention for the entire length of the video.	Interesting and engaged the viewer throughout run of the video	Very interesting and throughout the video, viewer was excited to see what would come next.	Captivating and made the viewers want to watch other videos made by the entrant.
Illumination	Failed to explain the subject matter clearly; video did not help viewer understand subject matter.	Explanation was at times confusing and viewer was not able to understand much of the subject matter.	Explanation was fairly clear but covered only general concepts.	Explanation was clear and covered some topics beyond general concepts.	Explanation was very clear and covered many topics beyond general concepts.	Viewer was able to fully understand the explanation, and video provided a deep dive into the intricacies of the subject matter.
Creativity	No elements of the video demonstrated creative approach to explaining the subject matter.	The explanation was standard and contained one or two resourceful elements.	Parts of the video used creative approaches that made those parts of the explanation stronger.	Parts of the video used creative approaches that made those parts of the explanation stronger.	The entrant implemented d a creative approach throughout the entire video that helped the viewer understand the subject matter.	Video provided an inventive approach that should be used to teach this subject matter.
Difficulty	Subject matter is typically covered at the elementary school level.	Subject matter is typically covered at the junior high school level.	Subject matter is typically covered at the senior high school level.	Subject matter is typically covered at the senior high school level but the video expands upon more complex areas of the subject matter.	Subject matter is typically covered at the advanced senior high school level or early college level.	Subject matter is typically covered at the advanced college level or higher.
TOTAL (20)						

(Enclosure No. 3 in Reference to the DepEd Memorandum No. 038, s. 2022)

SIYENSIKULA WAIVER AND CERTIFICATION

CERTIFICATION

KNOWN ALL MEN BY THESE PRESENTS:

That I/We _____of _____ writer/ s in the _____ hereby certify that our entry is of our own, and is new and original to the best of our knowledge. I/We further certify that we give our permission for DepEd – Region IV A Calabarzon - CLMD to share t}re said Videos as supplemental learning materials to be used in the classrooms.

IN WITNESS WHEREOF, I/We have hereunto set our hands on this _____ day of _____, 2022 at _____.

_____ Witness

_____ Witness

SUBSCRIBED AND SWORN TO before me this _____ day of _____ 2022, at, _____, Philippines, affiant _____, exhibiting his proof of identity as above stated.

Doc. No.: _____
Page No.: _____
Book No.: _____
Series of 2022

(Enclosure No. 4 in Reference to the DepEd Memorandum No. 038, s. 2022)

LIKHA – A FULL PROPOSAL RESEARCH COMPETITION

MECHANICS AND CRITERIA

1. This competition is open to all Grade 9 - 12 students from both Public and Private Schools in CALABARZON.

2. The first place winners at the Division level shall represent the division to the RSTF competition as approved by the Screening Committee. Only one (1) entry is allowed per category either individual or team.

3. The four (4) major categories are Life Science, Physical Science, Robotics and Intelligent Machines, and Mathematics and Computational Sciences.

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

4. The official entries to the Regional Level Likha Competition should be properly endorsed by the Schools Division Superintendent through an endorsement letter on or before the deadline of submission at the regional level on **June 20, 2022**.

5. Entries must be submitted via email to marvelino.niem@deped.gov.ph with a subject format: LIKHA SDO CATEGORY (ex. LIKHA_SDO_BATANGAS_LS-I).

6. The email should include completely filled-out **Project Form** (Enclosure 5) and other relevant files in PDF format. Incomplete submission of the required documents may disqualify the regional entries.

7. DepEd-RSTF Regional Technical Working Committee reserves the right to remove, reject, or disqualify any entry if it infringes, misappropriates, or violates any rights of any third party including, without limitation, patent, copyright, trademark or right of privacy or publicity.

8. The Project Proposal will be **screened** according to the following criteria:

CRITERIA	**WEIGHT**
Originality and Innovation	25%
Technical/Scientific Merit	25%
Community Connection and Impact	25%
Excellence of method	25%
TOTAL	**100%**

9. The Project Proposal will be **judged** according to the following criteria:

CRITERIA	DESCRIPTION	WEIGHT
Originality and Innovation	The project provides novel and innovative solutions to issues in the environment	20%
Technical/Scientific Merit	Sound scientific basis to generate new knowledge or apply existing knowledge in an innovative manner	20%
Community Connection and Impact	Outcomes are expected to address the issue or problem identified.	20%
Excellence of method	Solution and method proposed and cost effective, viable, timely and relevant.	20%
Presentation	Proponent/s provide/s a clear explanation of the facts, theories, thorough understanding of the expected output of the proposal.	20%
	TOTAL	100%

10. Project Format Descriptions:

a. **Executive Summary**- a brief discussion about the proposal.
b. **Introduction**- a declaration of the project and its idea and context to explain the goals and objectives to be reached and other relevant information that explains the need for the project and states the aims to describe the amount of work planned for implementation; refers to a simple explanation or depiction of the project that can be used as communication material.
   - **Rationale**- a brief analysis of the problems identified related to the project
   - **Significance**- refers to the alignment to national S&T priorities, strategic relevance to national development and addresses current issues and concerns.
   - **Scientific Basis**- scientific findings, conclusions or assumptions used as justification for the research.
   - **Theoretical Framework**- the structure that summarizes concepts and theories that serve as basis for the data analysis and interpretation of the research data.
   - **Objectives-** statements of the general and specific purposes to address the problem areas of the project.
c. **Review of Literature** - refers to the following: (a) related researches that have been conducted, state-of-the-art or current technologies from which the project will take off; (b) scientific/technical merit; (c) results of related research conducted by the same Project Leader, if any; (d) Prior Art Search, and; (e) other relevant materials.
d. **Methodology** - description of the design and engineering solution proposed to address the problem, the (a) variables or parameters to be measured and evaluated or analyzed; (b) treatments to be used and their layout; (c) experimental procedures and design; (d) statistical analysis; (e) evaluation method and observations to be made, strategies for implementation (Conceptual/ Analytical framework).

e. **Expected Output and Potential Impact** - discusses the possible outcome of the project, the target beneficiaries, socio and economic impact
f. **Workplan and Target Deliverables**- indicates the timeline of activities to be accomplished in the conduct of the project.
g. **References** - list of reference materials such as journals, designs and patents, and online sources. It should follow the Chicago Manual of Style in referencing.

Note:

Font Style : Bookman Old Style

Font Size: 11

Spacing: Double Space

Margin: 1.5" left, 1.0 for the other sides

Paper Size: A4

(Enclosure No. 5 in Reference to the DepEd Memorandum No. 038, s. 2022)

LIKHA – RUBRIC EVALUATION TOOL (SCREENING)

CRITERIA	POINT
1. Originality and Innovation (25) 1. Does the project show originality and innovation in terms of: a. proposed approach in solving the problem? b. research design? c. research methodology? d. construction or design of a new or improved equipment? 2. Did the research project considered an issue, /problem/gap that previous research projects did not addressed? 3. Does the project transforms an idea or solution into a creative, unique, and major improvement in the current technology/process/product/technique/design?	
2. a. Technical/Scientific Merit (25) (If an engineering project, please see 2b. Engineering Goals.) 1. Is the problem stated explicitly and concisely? 2. Was the approach to solve the problem supported by relevant, critical and logical related literatures (scientific basis/theoretical framework/mathematical theory)? 3. Did the finalist/team cite sufficient number of credible related literatures to provide a solid understanding and pre-requisite information for readers to better understand the research project? 4. Does the finalist/team recognize the projects' limitations? 5. Does the analysis of background information with depth? **b. 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. Will the solution be tested for performances under standardized protocols?	
3. Community Connection and Impact (25) 1. Did the project addressed a relevant research issue? (e. g. food safety, water conservation, cyber security, traffic, road congestion, health, disaster mitigator, agriculture and environment and others). 2. Did the student clearly defined the extent on how tie research project can potentially benefit and meet the needs of the society? 3. Does the proposed solution gives value, effectiveness and efficiency to their target sector?	
4. Excellence of Method (25) 1. Was the research methods supported by relevant and credible related literatures? 2. Was there an efficient, thorough valid and reliable procedural plan to attain the research objectives? 3. Are the variables clearly identified and defined? 4. If controls were necessary, did the student recognize their need and will be used correctly? For the extraneous variables, did the student identified methods on how to control such variables? 5. Does the critical elements (e.g. treatments, techniques, protocols, replications, trials) of the research design and methods appropriately developed? 6. Does the project specifically and clearly explained what and how quantitative and qualitative data will be collected? 7. Does the project recognize ethical or safety issues and has adequate plans to manage risks? 8. Does the project include appropriate protocol/procedures for waste disposal and data analysis? 9. Is the proposed timeline/workplan appropriate, achievable, practical and feasible?	
TOTAL	

_____

Signature over printed name of the evaluator

(Enclosure No. 6 in Reference to the DepEd Memorandum No. 038, s. 2022)

LIKHA – RUBRIC EVALUATION TOOL (FINAL JUDGING)

CRITERIA	POINT
1. Originality and Innovation (20) 1. Does the project show originality and innovation in terms of a. proposed approach in solving the problem? b. research design? c. research methodology? d. construction or design of a new or improved equipment? 2. Did the research project considered an issue/problem/gap that previous research projects did not addressed? 3. Does the project transforms an idea or solution into a creative. unique and major improvement in the current technology/process/product/technique/design?	
2. a. Technical/Scientific Merit (20) (If an engineering project, please see 2b. Engineering Goals.) 1. Is the problem stated explicitly and concisely? 2. Was the approach to solve the problem supported by relevant, critical and logical related literatures (scientific basis/theoretical framework/ mathematical theory)? 3. Did the finalist/team cite sufficient number of credible related literatures to provide a solid understanding and pre-requisite information for readers to better understand the research project? 4. Does the finalist/team recognize the projects' limitations? 5. Does the analysis of background information with depth? **b. 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 for the previous alternatives or application? 6. Will the solution be tested for performances under standardized protocols?	
3. Community Connection and Impact (20) 1. Did the project addressed a relevant research issue? (e. g. food safety. water conservation, cyber. security, traffic/road congestion, health, disaster mitigation, agriculture and environment and others) 2. Did the student clearly defined the extent on how the research project can potential, benefit and meet the needs of the society. 3. Does the proposed solution gives value. effectiveness and efficiency to their target sector?	
4. Excellence of Method (20) 1. Was the research methods supported by relevant and credible related literatures? 2. Was there an efficient, thorough/ valid and reliable procedural plan to attain the research objectives? 3. Are the variables clearly identified and defined? 4. If controls were necessary, did the student recognize their need and will be used correctly? For the extraneous variables, did the student identified methods on how to monitor and keep these variables constant? 5. Does the critical elements (e.g. treatments, techniques, protocols, replications, trials) of the research design and methods appropriately developed? 6. Does the project specifically and clearly explained what and how quantitative and qualitative data will be collected? 7. Does the project recognized ethical or safety- issues and has adequate plans to manage risks? 8. Does the project include appropriate protocols/procedures for waste disposal and data analysis? 9. Is the proposed timeline/workplan appropriate. achievable, practical and feasible?	
5. Presentation(20) 1. How clearly- and concisely does the finalist or team discussed his/her project and explain the rationale and procedures? Watch out of memorized speeches that reflect little understanding of principles. 2. Does the written material reflect the finalist's or team's understanding of the research proposal? 3. Are the important phases of the project presented in an orderly manner? 4. How clearly is the rationale presented? 5. Ho$ clearly are the research methods presented? 6. Did the student used presentation resources as guide? 7. Is the presentation professional with the use of colors, fonts and graphics? 8. Did the student speaks clearly, maintains eye contact and uses appropriate scientific language? 9. Did the student provided clear, detailed and accurate answers to the questions given?	
TOTAL	

_____

Signature over printed name of the judge

(Enclosure No. 7 in Reference to the DepEd Memorandum No. 038, s. 2022)

LIKHA – PROJECT PROPOSAL TEMPLATE

(1) PROJECT PROFILE
Project Title: _____
Names of Project Proponents: _____
Region: _____
School: _____
Division: _____
Grade Level: _____
Project Duration (number of months): _____
Email: _____ Contact number: _____

(2) CATEGORY OF RESEARCH	**(4) THEME**
_____ Physical Science _____ Life Science _____ Robotics and Intelligent Machines _____Mathematics and Computational Sciences **(3)** _____Individual _____ Team	_____ Food Safety _____ Water Conservation _____Renewable Energy _____Cyber Security _____ Traffic / Road Congestion _____Health _____Disaster Mitigation _____ Agriculture and Environment. _____Others (please specify) _____

(5) EXECUTIVE SUMMARY (not to exceed 200 words)

(6) INTRODUCTION

(6.1) RATIONALE/SIGNIFICANCE (not to exceed 300 words)

(6.2) SCIENTIFIC BASIS/THEORETICAL FRAMEWORK/MATHEMATICAL THEORY INVOLVE

(6.3) OBJECTTVES
General:
Specific:

(7) REVIEW OF LITERATURE

(8) METHODOLOGY

(9) EXPECTED OUTPUTS ANO POTENTIAL IMPACTS

(10) WORK PLAN AND TARGET DELIVERABLES

(11) REFERENCES

(Enclosure No. 8 in Reference to the DepEd Memorandum No. 038, s. 2022)

STEMTOKPERIMENTS – A TIKTOK SCIENCE EXPERIMENT

MECHANICS AND CRITERIA

1. This competition is open to all Junior and Senior School students from both Public and Private Schools in CALABARZON.

2. There will be two (2) categories: (a) Junior High School, and (b) Senior High School. The video entry should feature only one (1) Tiktok user.

3. Each division may send **one (1) official entry from each category** to the Regional STEMTokperiments Competition. They should be properly endorsed by the Schools Division Superintendent through an endorsement letter on or before the deadline of submission at the regional level on June 20, 2022.

4. The participant must design an experiment proving or applying a Scientific concept, theory or law in a cheerful, lively and creative manner through a Tiktok video that is not more than one (1) minute.

5. The participant can explain the topic/concept in English or Filipino.

6. The Tiktok Video must use the hashtags #SCITOKPERIMENTSCALABARZON and #RSTF2022 in uploading the video entry in Tiktok.

7. All contents and audio in the TikTok video must be original and are owned by the participant/s. All creative visual tools such as animations, simulations, physical demonstrations, or visual aids are allowed. The contestant will be held accountable to any issues that may arise with regard to the originality and accuracy of the content.

8. The following TikTok video format are highly recommended:
   File size: The video should be up to 287.6 MB in size for iOS, or 72 MB on Android.
   Orientation: TikTok is formatted to be viewed on a smartphone, so vertical video is best.
   Dimension: TikTok video dimensions should be 1080x1920.
   Aspect ratio: The aspect ratio should be that of a standard smartphone screen, 9:16. l: I is also possible, but it will not take up the whole screen.
   File type: TikTok supports .mp4 and .mov files.

9. Entries must be submitted via email at marvelino.niem@deped.gov.ph with a subject format: "#SCITOKPERIMENTS_SDO" (ex. "#SCITOKPERIMENT_SDOLIPA).

10. The email should include: (1) the name/s of the participant/ s; (2) Tiktok video link attachment of the video entry; and (3) a pdf file of the video script along with the references in Chicago Manual of Style. Non-submission of any of the required documents for the competition category will automatically be disqualified.

11. DepEd-RSTF Regional Technical Working Committee reserves the right to remove, reject, or disqualify any entry if it: (a) violates the terms of service and privacy policy of Tiktok; and (b) infringes, misappropriates, or violates any rights of any third party including, without limitation, patent, copyright, trademark or right of privacy or publicity.

12. Entries submitted to "#SCITOKPERIMENTSCALABARZON" do not represent DepEd and the RSTF Technical Working Group.

13. The Tiktok Video will be judged according to the following criteria:

CRITERIA	**PERCENTAGE**
Originality and Creativity Video is original, creative and unique.	30%
Delivery/ Execution Delivery is well planned with smooth transitions and edits. Ideas are very organ2ed and easily understood. All sound and visual elements coincide with the video's content.	30%
Accuracy of Content All information being delivered is accurate and relevant.	40%
TOTAL	**100%**

(Enclosure No. 9 in Reference to the DepEd Memorandum No. 038, s. 2022)

TIMELINE RSTF 2022

Activity	Date/Schedule
Submission of Entries for the Regional Science and Technology Fair	June 20, 2022
Regional Level – Preliminary Screening of Entries	June 21 – 24, 2022
Regional Level Science and Technology Fair	June 27 – July 1, 2022
Regional Level Science and Technology Fair Culmination Program and Awarding Ceremony	July 8, 2022