Republic of the Philippines
Department of Education
Region III
Schools Division of Angeles City

May 12, 2022

DIVISION MEMORANDUM
No. 187, s. 2022

To: Assistant Schools Division Superintendent
OIC Chief, Curriculum Implementation Division
Education Program Supervisor in Science
Public and Private Secondary School Heads
All Others Concerned

DIVISION SCIENCE AND TECHNOLOGY FAIR 2022

1. Pursuant to DM No. 38, s. 2022, National Science and Technology Fair 2022 and RM No. 266, s. 2022, Regional Science and Technology Fair, this Office announces the conduct of the Division Science and Technology Fair (DSTF) 2022 with the theme "Expanding the Horizon: Futures of STEM". The division screening and evaluation process of the submitted entries will be held on June 13-14, 2022 while the awarding ceremony will be held on June 16, 2022 via online platform.

2. This year's DSTF is anchored on the aims of the National Science and Technology Fair (NSTF) which are:
   a. empower the youth and cultivate innovation, and creativity amid the changing world; and
   b. showcase the competence of the learners in addressing community problems for sustainable development and maximize their potential of being inquisitive and creative in dealing with real-life problems.

3. The virtual DSTF will banner the following contest categories open to Junior High School and Senior High School learners:
   a. *Siyensikula* – an original video creation competition
   b. *Likha* – a research proposal competition
   c. *#STEMTokperiments* – a *Tiktok* Science Experiment Competition

4. The following documents are enclosed for information and guidance of all concerned:
   a. Enclosure No. 1- *Siyensikula* – Mechanics
   b. Enclosure No. 2- *Siyensikula* – Criteria/Peer to Peer Evaluation Tool

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c. Enclosure No. 3- *Siyensikula* – Waiver and Certification
d. Enclosure No. 4- *Likha* – Mechanics and Criteria
e. Enclosure No. 5- *Likha* – Rubric Evaluation Tool (Final Judging)
f. Enclosure No. 6- *Likha* – Project Proposal Template
g. Enclosure No. 7- *#STEMtokperiments* – Mechanics and Criteria
h. Enclosure No. 8-Official List of Contestants and Coaches

5. For more information, please contact Dr. Gemima A. Estrabillo, Education Program Supervisor in Science, CID Unit, Division Office through email at gemima.estrabillo@deped.gov.ph or cellphone number 09327877249.

6. Immediate and wide dissemination of this memorandum is enjoined.

MA. IRELYN P. TAMAYO, PhD, CESO V
Schools Division Superintendent

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Enclosure No. 1 to Division Memorandum No. 187, s. 2022

DIVISION SCIENCE AND TECHNOLOGY FAIR 2022

SIYENSIKULA MECHANICS

1. This competition is open to all Junior and Senior High School students from both public and private schools in the division. A maximum of there students may collaborate on a single video entry.

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 a video presentation that is not more than three (3) minutes. The participant/s 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. The videos must reflect that the student/s has/have 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 secondary school may send a maximum of two (2) official entries on or before June 13, 2022. The video entries must be uploaded to a Google Drive whose link will be forwarded to Secondary School Science Focal Persons.

6. The supporting documents that must be included with the video include a pdf file of the video script along with the references in the Chicago Manual of Style and Siyensikula Waiver and Certification. Non-submission of any of the required documents for the competition entry is a ground for disqualification.

7. The top two entries (First Place and Second Place) will represent the division in the RSTF 2022.

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Enclosure No. 2 to Division Memorandum No. 187, s. 2022

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SIYENSIKULA – RUBRIC 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 viewer felt engaged throughout the entire length of the video.	Very interesting and throughout the video, viewer was excited to see what would come next.	Captivating and made the viewer 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.

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Creativity	No elements of the video demonstrated a 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.	Many parts of the video took an unorthodox approach to explaining the subject matter, which made the overall explanation stronger.	The entrant implemented 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 school level.	Subject matter is typically covered at the middle school level, but the video expands upon more complex areas of the subject matter.	Subject matter is typically covered at the high school level.	Subject matter is typically covered at the advanced high school level or early college level.	Subject matter is typically covered at the advanced college level or higher.
Total (Maximum of 20 points)						

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Enclosure No. 3 to Division Memorandum No. 187, s. 2022

DIVISION SCIENCE AND TECHNOLOGY FAIR 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 – Bureau of Curriculum Development to share the 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

Note: ***Please submit this form together with your entries on or before the Deadline of submission.***

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Enclosure No. 4 to Division Memorandum No. 187, s. 2022

DIVISION SCIENCE AND TECHNOLOGY FAIR 2022

LIKHA – MECHANICS AND CRITERIA

1. The competition is open to all Grades 9 to 12 students from both public and private schools in the country.

2. The four major categories are Life Science, Physical Science, Robotics and Intelligent Machines, and Mathematics and Computational Sciences.

Category	Life Science	Physical Science	Robotics and Intelligent Machines	Mathematics and Computational Science
	Individual	Individual	Individual	Individual
	Team	Team	Team	Team

3. The first place winners will represent the division to the RSTF competition.

4. Each secondary school may send a maximum of one (1) official entry per category on or before June 13, 2022. The completely filled-out Project Proposal Form and other relevant files must be uploaded to a Google Drive whose link will be forwarded to Secondary School Science Focal Persons.

5. The proposals 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	25%
Technical/Scientific Merit	Sound scientific basis to generate new knowledge or apply existing new knowledge in an innovative manner	25%
Community Connection and Impact	Outcomes are expected to address the issue or problem identified	25%
Excellence or Method	Solution or method proposed are cost-effective, viable, timely and relevant	25%
	Total	100%

6. Project Format Descriptions:
   a. Project Summary – a brief discussion about the proposal

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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.

I. Rationale – a brief analysis of the problems identified and related to the project

II. Significance – refers to the alignment to National Science and Technology (S & T) priorities, strategic relevance to national development and addresses current issues and concerns.

III. Scientific Basis – scientific findings, conclusions or assumptions used a justification for the research.

IV. Theoretical Framework – the structure that summarizes concepts and theories that serve as basis for the data analysis and interpretation of the research data.

V. Objectives – statements of the general and specific purposes to address the problem areas of the project.

c. Review of Related 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 a journals, designs and patents, and online sources. Is should follow Chicago Manual of Style in referencing.

Enclosure No. 5 to Division Memorandum No. 187, s. 2022

DIVISION SCIENCE AND TECHNOLOGY FAIR 2022

LIKHA – RUBRIC EVALUATION TOOL (FINAL JUDGING)

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 mitigation, agriculture and environment and others) 2. Did the student clearly defined the extent on how the 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?	

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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 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 recognize 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?	
TOTAL	

Enclosure No. 6 to Division Memorandum No. _____, s. 2022

DIVISION SCIENCE AND TECHNOLOGY FAIR 2022

LIKHA – PROJECT PROPOSAL TEMPLATE

(1) PROJECT PROFILE Project Title:_____ Names of Project Proponent/s:_____ Region:_____Division_____ _____ School:_____Grade Level:_____ Project Duration (number of months): _____ Email:_____ Contact number:_____	
(2) CATEGORY OF RESEARCH _____ Physical Science _____ Life Science _____ Robotics and Intelligent Machines _____Mathematics and Computational	**(4) THEME** _____Food Safety _____Water Conservation _____Renewable Energy _____Cyber Security _____Traffic / Road Congestion _____Health

Sciences **(3)** ____Individual ____Team	_____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 INVOLVED	
(6.3) OBJECTIVES General: Specific:	
(7) REVIEW OF LITERATURE	
(8) METHODOLOGY	
(9) EXPECTED OUTPUTS AND POTENTIAL IMPACTS	
(10) WORK PLAN AND TARGET DELIVERABLES	
(11) REFERENCES	

Enclosure No. 7 to Division Memorandum No. 167, s. 2022

DIVISION SCIENCE AND TECHNOLOGY FAIR 2022
#STEMTokperiments – MECHANICS AND CRITERIA

1. The competition is open to all Junior and Senior High School students from both public and private schools in the country.

2. There will be two categories: (a) Junior High School, and (b) Senior High School. The video entry should feature only one (1) Tiktok user. The participants can explain the topic/content in English or Filipino.

3. The Tiktok video must use the hashtags #STEMTOKPERIMENTS and #TCSDDSTF2022 in uploading the video entry in Tiktok.

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 minute.

5. 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
Dimensions	Tiktok video dimensions should be 1080 x 1920
Aspect Ratio	The aspect ratio should be that of a standard smartphone screen, 9:16. 1:1 is also possible, but it will not take up the whole screen
File Type	Tiktok supports .mp4 and .mov files

6. Each secondary school may send a maximum of one (1) official entry per category on or before June 13, 2022. The completed Tiktok video and pdf file of the video script along with the references in Chicago Manual of Style must be uploaded to a Google Drive whose link will be forwarded to Secondary School Science Focal Persons.

7. The TCSD DSTF TWG 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.

8. Tiktok video entries submitted to the DSTF 2022 #STEMTOKPERIMENTS do not represent DepEd and the DSTF TWG.

9. The Tiktok videos 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 organized 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%

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DIVISION SCIENCE AND TECHNOLOGY FAIR 2022

OFFICIAL LIST OF CONTESTANTS AND COACHES

School: _____

School Head: _____

Science Focal Person: _____

No.	Contest Category	Contestant	Coach
1	Siyensikula		
2	Likha		
	Life Science (I)		
	Life Science (T)		
	Phy Science (I)		
	Phy Science (T)		
	Robotics & IM (I)		
	Robotics & IM (T)		
	Math & CS (I)		
	Math & CS (T)		
3	#STEMTOKPERIMENTS		
	JHS		
	SHS		

Prepared by:

_____

Science Focal Person

APPROVED:

_____

School Head

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