



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

Office of the Schools Division Superintendent

DIVISION MEMORANDUM

CID-2023- 023

To : CID Chief
Public Schools District Supervisors
Education Program Supervisor in Mathematics
Elementary and Secondary Public and Private School Heads
Elementary and Secondary Public and Private School Teachers

Subject : **CONDUCT OF DIVISION MATHEMATICS FAIR 2023 CUM TRAINING OF COACHES FOR SELECTED MATHEMATICS COMPETITIONS**

Date : February 6, 2023

In reference to the implementation of the Project LABANG (Learning delivery implementation Adjustment to Bridge Academic gaps through a Nurturing education landscape Gearing towards scholastic achievement), this office informs the field that the Division Mathematics Fair 2023 cum Training of Coaches for Selected Mathematics Competitions will be conducted on April 21, 22, 28 and 29, 2023 at Digos City Central Elem. School, Rizal Avenue, Digos City. The theme of this year's Division Mathematics Fair is "Making Mathematics Fun through Project LABANG".

This activity is aimed to:

1. awaken greater interest in Mathematics among elementary, junior high school, and senior high school learners in the division;
2. challenge the learners to strive for mathematical excellence;
3. empower mathematical talents with awards and recognition for them to serve as models to the youth;
4. enhance teacher-coaches' skills and strategies in mathematics teaching and coaching for mathematics quiz bee and Rubik's cube, tower of Hanoi, *mathematikula*, mathematics and computational science, graphing calculator video contest;
5. encourage teachers to develop digital strategic intervention materials (SIM) in Mathematics; and
6. showcase teachers' pedagogical knowledge and skills through 21st century skills demonstration teaching

The following is the complete list of events to be contested:

1. Event 1 – Division Math Quiz
2. Event 2 – Rubik's Cube
3. Event 3 – Tower of Hanoi
4. Event 4 – *Mathematikula*
5. Event 5 – Mathematics and Computational Science
6. Event 6 – Graphing Calculator Video Contest
7. Event 7 – Digital SIM in Mathematics (Teacher Category)
8. Event 8 – 21st Century Skills Demo Teaching (Teacher Category)



Below is the matrix of activities, venue/modality and timeline on or before the Division Mathematics Fair 2023, to wit:

No.	Activities	Venue/ Modality	Date	Persons Involved
1	Planning Conference for Division Mathematics Fair 2023 cum Training of Coaches for Selected Mathematics Competitions	Online/	February 10, 2023 (Friday) at 1:30 PM	Numeracy Skills Enhancement Team, Technical Working Group, District and School Math Coordinators, Division EPS-Math,
2	Pre-registration of participants to the different events	Online	February 27, 2023 (Monday) at 8:00 AM to March 10, 2023 (Friday) at 5:00 PM	IT Team, Teachers, Coaches, PSDSs, District and School Math Coordinators, and Division EPS-Math
3	Online Conference of Technical Working Group of the Division Mathematics Fair 2023	Online	March 17, 2023 (Friday) at 1:30 PM	Technical Working Group, District Mathematics Coordinators, and EPS-Math
4	Division Mathematics Fair 2023	Digos City Central Elem. School / Face-to-Face	April 21 to 22, 2023 (Friday to Saturday) from 8:00 AM to 5:00 PM	Technical Working Group, Mathematics Coordinators, Coaches, Contestants, and EPS-Math
5	Training of Coaches for Selected Math Competitions	Digos City Central Elem. School / Face-to-Face	April 28 to 29, 2023 (Friday to Saturday) from 8:00 AM to 5:00 PM	Technical Working Group, Coaches, and EPS-Math

Hereunder is the matrix of events, categories/participants, venue/modality, and date/time for the Division Mathematics Fair 2023, to wit:

No.	Events	Categories/ Participants	Venue/ Modality	Date/Time
1	Division Mathematics Quiz	Student Category All grade levels from Grades 1 to 11	Digos City Central Elem. School / Face-to-Face	Phase 1 – April 21, 2023 (AM) Phase 2 – April 21, 2023 (PM)
2	Rubik's Cube	Student Category - Key Stage 1 - Key Stage 2 - Key Stage 3 - Key Stage 4	Digos City Central Elem. School / Face-to-Face	April 21, 2023 (PM)
3	Tower of Hanoi	Student Category - Grades 3 to 4 - Grades 5 to 6 - Grades 7 to 10	Digos City Central Elem. School / Face-to-Face	April 21, 2023 (PM)



		Grades 11 to 12		
4	Mathematikula	Student Category - Key Stage 3 - Key Stage 4	Digos City Central Elem. School / Face-to-Face	April 22, 2023 (AM)
5	Mathematics and Computational Sciences	Student Category - Key Stage 3 - Key Stage 4	Digos City Central Elem. School / Face-to-Face	April 22, 2023 (AM)
6	Graphing Calculator Video Contest	Student Category - Key Stage 3 - Key Stage 4	Digos City Central Elem. School / Face-to-Face	April 22, 2023 (AM)
7	Digital SIM in Mathematics	Teacher Category - Key Stage 1 - Key Stage 2 - Key Stage 3 - Key Stage 4	Digos City Central Elem. School / Face-to-Face	April 22, 2023 (AM and PM)
8	21 st Century Skills Demonstration Teaching	Teacher Category - Key Stage 1 - Key Stage 2 - Key Stage 3 - Key Stage 4	Digos City Central Elem. School / Face-to-Face	April 22, 2023 (AM and PM)

Attached herewith are the following:

- Enclosure 1 – Program Management Team
- Enclosure 2 – List of Event Heads
- Enclosure 3 – Guidelines and Mechanics of the DMF 2023 Events

Virtual gatherings, i.e. planning conference and online conference with the Numeracy Skills Enhancement Team, Technical Working Group and District Math Coordinators shall be conducted through google meet with the link <https://meet.google.com/mtb-zvge-wyc>.

Due to limited resources, a minimal amount of Php10.00 per participant will be collected during pre-registration period for the expenses for additional trophies as well as honoraria for judges who are teachers and non-teaching employees outside SDO-Digos City. The collection shall be in voluntary basis and no receipt will be given to participants upon payment.

Service credits shall be granted to all public school teacher participants while compensatory overtime credits (COC) shall be granted to supervisors, school heads, and other non-teaching personnel in public schools for the services rendered during Saturdays, Sundays, or holidays (DepEd Order No. 53, s. 2003).

Immediate dissemination of this Memorandum is desired.

For and in the absence of the
Schools Division Superintendent

DepEd Schools Division of Digos City
RECORDS SECTION

RELEASED
23-97414

DATE: FEB 07 2023 TIME: 1:21 PM

BEVERLY S. DAUGDAUG, EdD
Chief Education Supervisor
Officer In-Charge

Enclosed: As stated.
CID/jbc

BY: 



Program Management Team

Steering Committee:

Chairperson: Cristy C. Epe – Schools Division Superintendent

Co-Chairperson: Basilio P. Mana-ay, Jr., - Assistant Schools Division Superintendent

Members:

Beverly S. Daugdaug, EdD – Chief, CID

Neil D. Bongcayao – Public Schools District Supervisor

Jem Boy B. Cabrella – Education Program Supervisor-Math

Numeracy Skills Enhancement Team:

Chairperson: Dr. Jem Boy B. Cabrella

Co-Chairperson:

Neil D. Bongcayao, Public Schools District Supervisor, Digos Occidental District

Members:

Rogan G. Adanza, OIC-Math Department Head of Digos City NHS

Felzev Lloyd C. Sayson, Math Adviser, Digos Occidental District

Joel A. Cartajena, Math Adviser, Digos Oriental District

Nelson Lucero, Math Adviser, Digos South District

Eduardo P. Paller, Jr. Math Adviser, Mt. Apo District

Wellisa P. Milca, Master Teacher Secondary Level Representative

Noryleth A. Virtudazo Master Teacher Elementary Level Representative

Jouy Hope A. Silabay – District Math Coordinator, Secondary Schools District

Nesylda D. Alpacion – District Math Coordinator, Digos Occidental District

Grace D. Alvarado – District Math Coordinator, Digos Oriental District

Rema M. Ramos – District Math Coordinator, Digos South District

Liwayway R. Fuenticilla – District Math Coordinator, Mt. Apo District



List of Event Heads

Overseer: Dr. Jem Boy B. Cabrella – EPS-Math
Overall Chairperson/Event Head: Miss Jouy Hope A. Silabay – Master Teacher I, Digos City NHS
Overall Co-Chairperson/Event Head: Miss Cathelene N. Cabras – Master Teacher II, Digos City NHS

Event #	Name of Event	Event Head/Chairperson	School Assignment
1	Division Mathematics Quiz	Mr. Eduardo P. Paller, Jr. Principal I	Matti Elementary School
2	Rubik’s Cube	Mr. R-jhon C. Alag Master Teacher I	Digos City National High School
3	Tower of Hanoi	Mr. Arnel S. Yañez Teacher III	Digos City National High School
4	Mathematikula	Mrs. Jernalyn L. Castro Master Teacher I	Digos City National High School
5	Mathematics and Computational Sciences	Mrs. Wellisa P. Milca Master Teacher I	Digos City National High School
6	Graphing Calculator Video Contest	Mr. Abshalom P. Legaspi Teacher I	Goma National High School
7	Digital SIM in Mathematics	Mrs. Myrell P. Dumigsi Master Teacher I	Digos City National High School
8	21 st Century Skills Demonstration Teaching	Mrs. Noryleth A. Virtudazo Master Teacher I	Digos City Central Elem. School



Guidelines and Mechanics of Division Mathematics Fair 2023 Events

DIVISION MATHEMATICS FAIR 2023

Event 1

Division Math Quiz

Chairperson: Mr. Eduardo P. Paller, Jr., Principal I, Matti Elem. School

- 1. Division Math Quiz is a two-phase individual competition among the Mathematics enthusiasts in the Schools Division of Digos City. It shall be participated by pre-registered learners from Grades 1 to 11 from both public and private schools.
- 2. Pre-registration will be open from February 27, 2023 (Monday) at 8:00 AM to March 10, 2023 (Friday) at 5:00 PM. Link will be provided and disseminated to the district and school Math coordinators. The date of competition will be on April 21, 2023 in the morning for Phase 1 and in the afternoon for Phase 2.
- 3. Private schools are highly encouraged to participate.
- 4. For Grades 1 to 6, each district shall determine top five (5) participants per grade level to participate in the division level. Private schools can send at most ten (10) participants from among them in the division with at most five (5) per private school.
- 5. For Grades 7 to 11, secondary public and private schools with more than 2,000 learners can send at most five (5) participants per grade level while those schools with less than 2,000 learners can send at most three (3) participants per grade level. In this competition, annex and extension school is considered one school.
- 6. Phase 1 is a written examination with the following details on the number of items and no. of points, to wit:

Grade Levels	Multiple Choice Questions		Constructed Response Format		Total No. of Points
	No. of Items	No. of Points (2 points each item)	No. of Items	No. of Points (3 points each item)	
1 to 3	10	20	10	30	50
4 to 6	10	20	15	45	65
7 to 10	10	20	20	60	80
11	10	20	20	60	80

- 7. Phase 1 written examination will be answered within 1.5 hours only.
- 8. To identify qualifiers for Phase 2 in both elementary and secondary levels, the following filters shall be used:
 - a. The contestant has earned at least 30% of the total number of points and;
 - b. The contestant belongs to the Top 15.
- 9. Phase 2 qualifiers will be announced within one hour after the Phase 1 written examination.
- 10. Phase 2 is an oral Math competition.
- 11. A total of 15 questions will be asked. The quizmaster will read each question twice, after which he/she gives the GO signal. The questions shall be read exactly as it is formulated. Rephrasing the questions is not allowed. Point system will be broken down as follows:



Grade Level	Easy Questions (30 seconds)		Average Questions (45 seconds)		Difficult Questions (60 seconds)		Total No. of Points
	No. of Items	No. of Points	No. of Items	No. of Points	No. of Items	No. of Points	
1 to 11	5	10	5	15	5	25	50

- Qualifiers are given 30 seconds to answer easy questions, 45 seconds for average questions, and 60 seconds for difficult questions. Timer starts when the quiz master says, “Go!”.
- Each answer will be written on the official answer slips provided. As soon as the quizmaster says “STOP”, everybody **MUST** stop writing.
- Proctors will collect the answer slips and give them to the judges who sort them into two sets: those with correct answers and those with wrong answers.
- One of the judges will announce the contestant/s with the correct answer. The scorer records the points obtained by each contestant for each correct answer.
- Answers must be given complete with units and to the required accuracy. However, if the unit is already given in the way the question is asked, it need not be given in the answer.
- The contestants will be ranked according to their total score obtained in two phases of competition – Written (Phase 1) and Oral (Phase 2).
- To determine the winners, top 5 highest scorers are announced before the event ends.
- In case of tie among any of the contestants vying for the first five places, a set of 3 questions will be given to break the tie, one from each category of questions, following the point system indicated in item 9. If the tie is not broken after the three questions, maximum of three (3) “do or die” questions will be given.
- If tie still exists after the “do or die”, wheel of names will be used to break the tie and will be used as the official basis for the declaration of winners.

Awards for Participating Schools

- All participating schools shall be awarded with Certificate of Participation.
- Regardless of grade level, the following point system shall be used as basis for the declaration of winners, to wit:

Awards Received	Points Earned
Champion	10
2 nd Place	8
3 rd Place	6
4 th Place	4
5 th Place	2

- Points earned by the winning contestants of each school shall be added to identify the score of the school.
- Top five (5) schools from the elementary, top five (5) schools from the Junior High School and top three (3) schools from the Senior High School with the highest points earned shall receive trophies.



Complaints or Clarifications

25. Only the official contestants may raise a complaint or clarification.
26. Complaints on a given question should be made before the next question is asked. This should be directed to the Chairman of the Board of Judges.



DIVISION MATHEMATICS FAIR 2023

Event 2

Rubik's Cube

Chairperson: Mr. R-Jhon C. Alag – Digos City National High School

1. This event shall be participated by pre-registered learners from Grades 1 to 12 of Digos City Division. Pre-registration is open from February 27, 2023 (Monday) at 8:00 AM to March 10, 2023 (Friday) at 5:00 PM. Link will be provided and disseminated to the district and school Math coordinators.

2. There shall be 4 categories in this event, namely:

- 2.1 Key Stage 1 (Grades 1 to 3)
- 2.2 Key Stage 2 (Grades 4 to 6)
- 2.3 Key Stage 3 (Grades 7 to 10)
- 2.4 Key Stage 4 (Grades 11 to 12)

3. There shall be at most 3 contestants per district in every key stage for elementary level and at most 3 contestants per school in every key stage for secondary level.

4. There shall be three rounds in this event.

4.1 FIRST ROUND: ONE FACE, ONE COLOR

Each player is given three colors arranged horizontally and in different colors.

Each player will solve three cubes from left to right arranged according to corresponding colors. 8 fastest players advance to the 2nd round.

4.2 SECOND ROUND: PATTERN

Each player is given three patterns arranged horizontally and in different colors.

Each player will solve three cubes from left to right arranged according to corresponding pattern. 5 fastest players advance to the 3rd round.

4.3 FINAL ROUND: BLOCKOUT

Each player will completely solve each cube from left to right (3 cubes). 5 players will rank according to fastest time completed.

5. The following mechanics shall be followed:

- 5.1 Players should bring 3 cubes
- 5.2 Players are given 10 seconds to inspect before solving the cube. (Timekeeper gives the countdown)
- 5.3 After inspection, player will display his timer which has 0.00 and may start after the timekeeper gave the GO signal.
- 5.4 Player stops his timer when 3 cubes are solved and display the time consumed. (Time keeper will announce the time consumed to the Recorder.)
- 5.5 Judge will inspect the 3 cubes if there are penalties.
- 5.6 Penalties and disqualification applied in the following instances.
 - a. Solved with a 2 Second Penalty
 - 1 turn more than 45° to align
 - b. Not Solved
 - 2 turns more than 45° to align
 - c. Solved No Penalty
 - Less than a 45° turn to align
 - d. Solved with 2 Second Penalty
 - 1 turn more than 45° to align
 - e. Solved with a 2 Second Penalty



Top row - 1 turn more than 45°

Bottom row - 1 turn less than 45°

5.7. Players are not allowed to use magnetic cubes.

5.8. If cube scatters into pieces, players are allowed to put them back and continue to solve as time is still running.

6. Top 3 contestants per key stage shall be declared winners.



DIVISION MATHEMATICS FAIR 2023

Event 3

Tower of Hanoi

Chairperson: Arnel S. Yañez – Teacher III, Digos City NHS

I. Overview

The tower of Hanoi (also called the Tower of Brahma or Lucas' Tower) is a mathematical game or puzzle. It consists of three rods and a number of disks of different sizes, which can slide onto any rod. The puzzle starts with the disks in a neat stack in ascending order of size on the rod, the smallest at the top, thus making a conical shape.

The tower of Hanoi is not only an excellent problem to teach and study the problem of designing optimal algorithm (recursive or iterative). It is also a very nice problem for robotics research and education. The fundamental difference is that we are not dealing with a virtual world, but with a real world.

II. Rules of the Game

General Rule

1. All levels will be playing seven (7) disks. The materials to be used in the competition will be provided by the organizers.
2. Please observe silence at all times once the game started. No participant is allowed to conduct practice inside the room while starting the competition to avoid destruction.
3. The facilitator of this game has the right to refuse any participant who will disobey the rules. Any improper gesture, misconduct behavior or any unethical attitudes towards other participant, facilitators and the management will be dealt accordingly.
4. All decisions by the game administrators and results are final and irrevocable.
5. Five (5) minutes grace period will be given to the late comers in each level. Any participant who will arrive late will be disqualified.

Game Mechanics

1. The goal of the puzzle is to move all the disks from the leftmost peg to the rightmost peg, adhering to the following rules:
 - a. Move only one disk at a time.
 - b. A larger disk may not be placed on top of a smaller disk
 - c. All disks, except the one being moved, must be on a peg.
2. This competition is in the FREEHAND MODE (One hand / Two hand and in any position of the base may be applied)
3. Once the disc dropped, the competitor may continue solving the puzzle but he/she is not allowed to restart all the disks.
4. Once the competitor placed the disk at the wrong peg (and is legal) he/she is allowed to continue to play unless conceded.
5. All participants are allowed to solved the puzzle in at most ten (10) minutes, otherwise, it is tantamount/commensurate to automatic disqualification
6. The time will stop once the competitor drops the last disk on the last peg.
7. Mode of Penalty will be given depending on the following conditions:
 - a. Moving 2 disks at a time
 - i. 1st Offense – Warning
 - ii. 2nd Offense – Disqualification
 - b. The disk is not dropped to the peg before moving the disk on the other peg
 - i. 1st Offense – Warning
 - ii. 2nd Offense – Disqualification
 - c. Placing large disk on the smaller disk
 - i. Disqualification



8. In case that the student is disqualified in any round, it is commensurate to the maximum number of time limit of 5 minutes. All consumed time will be recorded and added the average will be computed.
9. The top 3 students who made the fastest time average will be declared as 1st, 2nd and 3rd placer respectively.
10. All results will be tabulated and encoded by the official tabulator and will be finalized by the game facilitator.

III. Event Category

There shall be three contestants per district for elementary level, and three contestants per school for secondary level with the following categories:

- A. Grades 3 to 4

No. of Disks: 7 disks

1 round (one hand, either left or right)
- B. Grades 5 to 6

No. of Disks: 7 disks

1 round (both hands)
- C. Grades 7 to 10

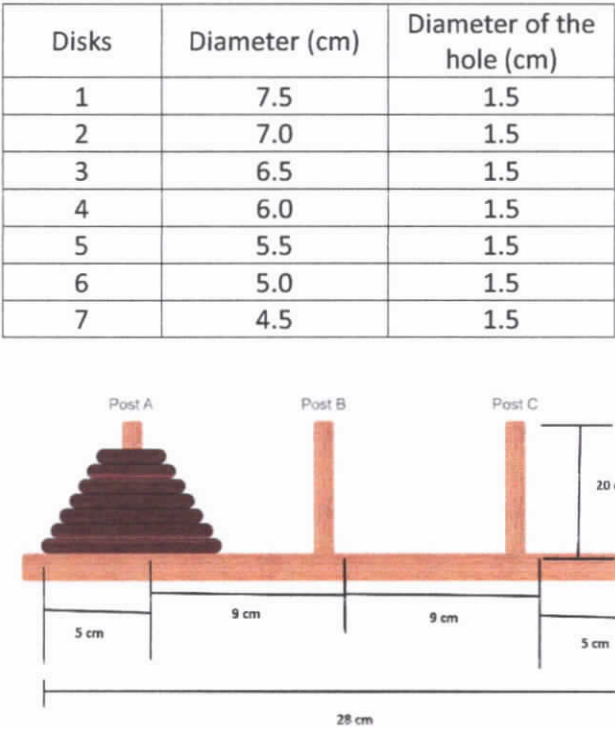
No. of Disks: 7 disks

2 rounds Round 1 – both hands
 Round 2 – one hand (right or left)
- D. Grades 11 to 12

No. of Disks: 7 disks

3 rounds Round 1 – both hands
 Round 2 – right hand
 Round 3 – left hand

Official Tower of Hanoi dimensions



Note: The contestant will be provided with a timer. Once the administrator say GO, the contestant will press the start button and as soon as he/she is finished, he/she will press the stop button.



DIVISION MATHEMATICS FAIR 2023

Event 4

Mathematikula

(Reference: *Siyensikula* Mechanics)

Chairperson: Mrs. Jernalyn L. Castro – Master Teacher I, Digos City NHS

A. THE CONTEST

1) Purpose. The *Mathematikula* Video contest will highlight students' overall talents in solving mathematical problems through video presentations that demonstrate their skills, knowledge, and efficiency in applying the art and technology of motion-picture photography in an engaging and realistic manner.

2) Format.

- The competition includes calculations in elementary algebra, advanced algebra, geometry, trigonometry, elementary statistics, pre-calculus, and calculus. The topics/subject matter to be discussed are based in the Most Essential Learning Competencies of the K to 12 Basic Education Curriculum.
- Participants must focus, discuss, and emphasize a difficult topic from the Elementary, Junior, and Senior High School Learning Mathematics and Engineering Continuum in a clear, creative, and engaging video presentation.
- **All contents in the video must be original and are owned by the participant.** Entries may include personal experiences and must show reflective observations. Videos must reflect that the participant has carefully examined the topic.
- All creative visual tools such as animations, simulations, physical demonstrations, or visual aids are allowed. However, participants must list and cite all of the resources used, including but not limited to images, audio, video clips, books, articles, etc., Use public domain sites for your references and resources. **Entries with photos and videos which are derivative works will automatically be disqualified.**
- Each entry shall submit **"one recorded video presentation"** that is **not more than three (3) minutes**. The participants shall discuss the topic in English as medium.
- If the video exceeds three (3) minutes, one (1) point will be deducted per second.

3) Timeline. Date of submission will be announced by the event head. The Division Screening Committee will provide a Google link for the submission bin.

B. ENTRIES

1. Participants in the contest are bona fide students in Elementary, Junior, or Senior High School of the public schools in the Division of Digos City.
2. There shall be three (3) official entries per district for elementary level, and two (2) official entries per school for secondary level with the following categories:
 - Key Stage 1 – Grades 1 to 3
 - Key Stage 2 – Grades 4 to 6
 - Key Stage 3 – Grades 7 to 10
 - Key Stage 4 – Grades 11 to 12
3. Each team in each category has 2 to 5 members. However, each entry shall have **"one video presenter"**. As a result, the remaining team members will assist the video presenter in preparing the technical aspects of the video.



4. The video entry should include the following data in an MS WORD format (1) Subject format of the video: "Mathematikula_School/District_KeyStage_VideoTitle", (2) Name of the Presenter and the members and the Coach, (3) video entry, (4) Accomplished Certificate of Ownership and Media Release Consent Form, and (5) a pdf file of the video script along with the references in Chicago Manual Style. Non-compliant with the required documents as aforementioned will void the entry.
5. Entries and other personal information must be saved in a folder labeled "Mathematikula_School/District_KeyStage_VideoTitle".
(For example, Mathematikula_DICNHS/JHS_KeyStage_3_CombinedVariations).
6. Each video entry and the written personal information of the participant or team members, as well as the pdf file of the video script in a Chicago Manual Style in an MS Word file, will be submitted/attached online via Google link bin. The event organizer will provide a link.
7. For copyright reasons, submitted video entries "will be uploaded by the Chairperson" of the event in a private YouTube channel. To pass the contest's initial screening process, the video must have "No Video Restrictions and No Copyright Claim" according to YouTube policies and guidelines. Videos that have viewing issues will be dealt with appropriately.
8. The contestant/team and coach must fill out the Certificate of Ownership Form and the Media Release Consent Form, which are attached in Annex A and B, respectively, and submit them with their entry.

C. Manner of Judging Process:

- a. **PEER-TO-PEER REVIEW (1st stage).** 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 of the Peer's Entries. **Judging** will be based on the Rubric Enclosure. The Top Scoring Entry will receive a title award of "*Mathematikula Peer's Choice Award*".

1.1 In the selection of Peers.

- a.1 Random/Draw lots ex. Entry 1 will pick 5 pcs of papers in a box containing the assigned number of the participants, same process will be done on the succeeding participant.
 - b.1 The contest committee will assign the Peers who will review the entries of other participants.
- b. **Most Creative Video Award (2nd stage)** – The "*Most Creative Video Award*" is a second stage process of Mathematikula that honors the video entry that demonstrates exceptional creativity in presenting mathematical concepts, sparking interest in this field of study, and capturing the public's imagination and interest in the mathematical concepts. The Evaluation and Selection Committee will review and score all the video entries on (**specified date scheduled by the Division Committee**), based on the criteria below.



MATHEMATIKULA
“Most Creative Video Award”

Criteria for Judging

Criteria	Description	Score
Originality	➤ Shows distinctive and fresh ways of presenting mathematical concepts.	25
Impact	➤ Captivates the viewer’s attention. ➤ Entertains while presenting mathematical concepts.	25
Cinematography/ Graphics/Animations	➤ Exhibits interesting and effective use of cinematography, graphics, and animations to supplement the presentation.	25
Editing	➤ Displays organized manipulation and arrangement of video shots to produce a comprehensive presentation.	15
Audio, Music, Sound Effects	➤ Utilizes audio, music, and sound effects to help deliver information. ➤ Evokes emotional responses and emphasizes what is on the screen, and it indicates mood.	10
➤ TOTAL		100

- b. **EVALUATION AND SELECTION COMMITTEE REVIEW (Final stage)** – The Evaluation and Selection Committee will review and score all the video entries based on the criteria stipulated in the memorandum (Enclosure).
- c. The Judges' decision is final, irrevocable, and independent of the Peer - to - Peer Evaluation and the Most Creative Video Award Evaluation process.
- d. **Top three (3) entries** for each category with the highest percentage/score from the Evaluation and Selection Committee shall be declared as **First Place, Second Place, and Third Place** will be given medals and certificates.
- e. If there is a tie, the Chairman of the Board of Judges will break it.
- f. Only the *first and second places* are qualified to join the Regional Mathematics Virtual Summit 2023.



Enclosure:

MATHEMATIKULA – RUBRIC EVALUATION TOOL

For use of Evaluation and Selection Committee

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 video, viewers was excited to see what would come next.	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.
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 High 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.
ILLUMINATION	Failed to explain the subject matter clearly; video did not help viewer to understand	Explanation was at times confusing, and viewer was not able to understand much of the	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.	Viewers was able to fully understand the explanation, and video provided a deep dive into the



	the subject matter.	subject matter.				intricacies of the subject matter.
TOTAL						
20 POINTS						



CERTIFICATION

KNOWN ALL MEN BY THESE PRESENTS:

That We _____ of _____ writer/s and _____ coach/coaches in the **MATHEMATIKULA VIDEO CONTEST** 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 – Digos City Division 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 _____, 2023 at _____, Philippines.

Signature

Signature

Signature

Signature

Signature

Signature

Coach/Coaches

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



(Annex B)

STUDENT MEDIA RELEASE CONSENT FORM

I, the undersigned, hereby grant the Department of Education – Digos City Division 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 agents 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 Student : _____ Date: _____

Address of Student: _____

Contact Number of Student: _____

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 Media Consent and Release.

Parent/Guardian Signature Over Printed Name:

_____ Contact Number of Parent: _____

Address: _____

Date: _____

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



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DIVISION MATHEMATICS FAIR 2023

Event 5

**Likha – A Full Proposal Research Competition
(Mathematics and Computational Sciences)**

Chairperson: Mrs. Wellisa P. Milca, MT-I, Digos City NHS

1. This competition is open to all Grade 9 – 12 students from both Public and Private Schools in the Digos City Division.
2. This event is comprised of team and individual categories. The team category is composed of 3 members.
3. Top two winners in each category will be declared first and second placers respectively.
4. The first-place winners in the Individual and Team category at the Division level shall represent the division to the regional level as approved by the Screening Committee.
5. This proposal research competition focuses on Mathematics and Computational Sciences.
6. The official entries to the Division Level Likha Competition should be properly endorsed by the school through an endorsement letter on or before the deadline of submission at the division level, which is to be announced later.
7. Entries must be submitted via email to wellisa.milca@deped.gov.ph with the subject format: LIKHA_MATH_TEAM/INDIV_SCHOOL (ex. LIKHA_MATH_TEAM_DiCNHS).
8. The email should include completely filled-out Project Proposal Template and other relevant files in PDF format. Incomplete submission of the required documents may disqualify the entries.
9. The Likha 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.
10. 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%

11. 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%

12. 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 issue 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 research 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, (c) 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; 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 Chicago Manual of Style in referencing.



LIKHA – RUBRIC EVALUATION TOOL (SCREENING)

CRITERIA	POINT
1. Originality and Innovation (25) 1.1. 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? 1.2. Did the research project consider an issue/problem/gap that previous research projects did not address? 1.3 Does the project transform an idea or solution into a creative, unique and major improvement in the current technology/process/product/technique/design?	
2. Technical/Scientific Merit (25) 2.1 Is the problem stated explicitly and concisely? 2.2 Was the approach to solve the problem supported by relevant, critical and logical related literatures (scientific basis/theoretical framework/mathematical theory)? 2.3 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? 2.4 Does the finalist/team recognize the projects' limitations? 2.5 Does the analysis of background information with depth?	
3. Community Connection and Impact(25) 3.1 Did the project address a relevant research issue? (e.g. food safety, water conservation, cyber security, traffic/road congestion, health, disaster mitigation, agriculture and environment and others) 3.2 Did the student clearly define the extent on how the research project can potentially benefit and meet the needs of the society? 3.3 Does the proposed solution give value, effectiveness and efficiency to their target sector?	
4. Excellence of Method (25) 4.1 Was the research methods supported by relevant and credible related literature? 4.2 Was their an efficient, thorough, valid and reliable procedural plan to attain the research objectives? 4.3 Are the variables clearly identified and defined? 4.4 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? 4.5 Does the critical element (e.g. treatment, techniques, protocols, replications, trials) of the research design and methods appropriately developed? 4.6 Does the project specifically and clearly explained what and how quantitative and qualitative data will be collected? 4.7 Does the project recognize ethical or safety issues and has adequate plans to manage risks? 4.8 Does the project include appropriate protocols/procedures for waste disposal and data analysis? 4.9 Is the proposed timeline/workplan appropriate, achievable, practical and feasible?	
Total	
Signature and printed name of the evaluator:	



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LIKHA – RUBRIC EVALUATION TOOL (FINAL JUDGING)

CRITERIA	POINT
1. Originality and Innovation (20) 1.1. 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? 1.2. Did the research project consider an issue/problem/gap that previous research projects did not address? 1.3 Does the project transform an idea or solution into a creative, unique and major improvement in the current technology/process/product/technique/design?	
2. Technical/Scientific Merit (20) 2.1 Is the problem stated explicitly and concisely? 2.2 Was the approach to solve the problem supported by relevant, critical and logical related literatures (scientific basis/theoretical framework/mathematical theory)? 2.3 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? 2.4 Does the finalist/team recognize the projects' limitations? 2.5 Does the analysis of background information with depth?	
3. Community Connection and Impact(20) 3.1 Did the project address a relevant research issue? (e.g. food safety, water conservation, cyber security, traffic/road congestion, health, disaster mitigation, agriculture and environment and others) 3.2 Did the student clearly define the extent on how the research project can potentially benefit and meet the needs of the society? 3.3 Does the proposed solution give value, effectiveness and efficiency to their target sector?	
4. Excellence of Method (25) 4.1 Were the research methods supported by relevant and credible related literature? 4.2 Was there an efficient, thorough, valid and reliable procedural plan to attain the research objectives? 4.3 Are the variables clearly identified and defined? 4.4 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? 4.5 Does the critical element (e.g. treatment, techniques, protocols, replications, trials) of the research design and methods appropriately developed? 4.6 Does the project specifically and clearly explained what and how quantitative and qualitative data will be collected? 4.7 Does the project recognize ethical or safety issues and has adequate plans to manage risks? 4.8 Does the project include appropriate protocols/procedures for waste disposal and data analysis? 4.9 Is the proposed timeline/workplan appropriate, achievable, practical and feasible?	
5. Presentation 5.1 Watch out of memorized speeches that reflect little understanding of principles. 5.2 Does the written material reflect the finalist's or team's understanding of the research proposal? 5.3 Are the important phases of the project presented in an orderly manner? 5.4 How clearly is the rationale presented? 5.5 How clearly are the research methods presented? 5.6 Did the student used presentation resources as guide? 5.7 Is the presentation professional with the use of colors, fonts and graphics?	



5.8 Did the student speak clearly, maintains eye contact and uses appropriate scientific language?	
5.9 Did the student provided clear, detailed and accurate answers to the questions given?	
TOTAL	
Signature and printed name of the evaluator:	

LIKHA- PROJECT PROPOSAL TEMPLATE

(1) PROJECT PROFILE Project Title: _____ Name of Project Proponent/s: _____ School: _____ Grade level: _____ Project Duration number of months: _____ Email: _____ Contact Numbers: _____	
(2) Category of Research _____ Mathematics and Computational Sciences (3) _____ Individual _____ Team	(4) Theme _____ Food Safety _____ Water Conservation _____ Renewable Energy _____ Cyber Security _____ Traffic/Road Congestion _____ Health _____ Disaster Mitigation _____ Agriculture and Environment _____ Other (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	



DIVISION MATHEMATICS FAIR 2023

Event 6

GRAPHING CALCULATOR VIDEO CONTEST

Chairperson: Mr. Abshalom P. Legaspi – Teacher III, Goma NHS

A. THE CONTEST

(1) **Purpose.** The Graphing Calculator Video Contest will showcase the student's efficiency in problem solving strategies involving calculations in the areas of engineering, science, and mathematics.

(2) **Format.**

- The contest includes calculations involving algebra, geometry, trigonometry, elementary statistics, pre-calculus and calculus. Topics comprises the most essential learning competencies of the K-12 Basic Education Curriculum.
- The contest will showcase video tutorials on how to use graphing calculator in solving math problems. The language to be used can be English or Tagalog.
- Each entry shall submit one **recorded instructional video** (not exceeding 5 minutes) on solving challenging mathematics problems **using graphing calculator**.
- There shall be 1 point deduction per second if the video exceeds 5 minutes.

(3) **Calculators.** Any brand or model of graphing calculator is deemed accepted. Also, graphing calculator applications are accepted.

(4) **Timeline.** Date of submission will be announced by the event head. The Division Screening Committee will provide Google link for the submission bin.

B. ENTRIES

- Participants of the contest are bona fide students in public secondary schools.
- Each school may send as many as two entries. One for JHS category and one for SHS category.
- Each entry shall have one video presenter. However, an entry can have an option of adding as many as two members in the team whose roles are in the technical aspect.
- Online submission of the video entry and other personal information of the contestant or team will be done through google form. Link will be provided by the event head.
- Entries must be submitted with the format: "CalcVideo_<School Name>_<VideoTitle>" (ex. CalcVideo_DICNHSMMain_ConicSection).
- The Certificate of Ownership Form attached in *Annex A* and Media Release Consent Form attached in *Annex B* shall be accomplished by the contestant/team and coach to be submitted together with their entry.
- As a matter of policy, submitted entries will be uploaded in a YouTube channel. It must have no video restrictions and no copyright claim under YouTube policies and guidelines to pass the initial screening process of the contest. Videos with viewing issues will be dealt accordingly.

C. SCORING SYSTEM

(1) Judges shall rate each entry based on the criteria below and their decision is final and irrevocable.

Clarity and Delivery (20 pts)

- ✓ The video and audio quality are clear and effectively contributing to the delivery of the message. Video shots and background audio is kept in balance.
- ✓ The presenter speaks clearly and distinctly all the time and mispronounces no words.



Difficulty of the Problem (20 pts)

- ✓ Subject matter is typically covered at the higher order thinking skills.
- ✓ The topic includes solving a challenging mathematical problem involving multistep approach.

Demonstration of Graphing Calculator (40 pts)

- ✓ The presentation showcases the importance of graphing calculator in solving math problems. It features how the tool makes the task easy and fast.
- ✓ The presenter displays mastery in using the calculator and the viewer finds its functionality relevant and user-friendly.
- ✓ The video displays mathematical features of what a graphing calculator can perform beyond what other calculators can only do.

Organization of Presentation (20 pts)

- ✓ The work is presented in a neat, clear, organized fashion that is easy to comprehend.
- ✓ Presentation is captivating and made the viewer watch the video from start to finish.

(2) **Top 3 winners** shall be declared for each category based on the highest accumulated points among all judges.

(3) In case of tie, the chairman of the board of judges shall break the tie.

(4) **Special Awards** shall also be given to each category such as:

- ✓ **Eagle Video Award** (*Judges' bet in Clarity and Delivery*)
- ✓ **Problem Solver of the Year** (*Judges' bet in Difficulty of the Problem*)
- ✓ **Diamond Performance Award** (*Judges' bet in Calculator Demonstration*)
- ✓ **Golden Video Award** (*Judges' bet in Organization of Presentation*)



CERTIFICATION

KNOWN ALL MEN BY THESE PRESENTS:

That We _____ of _____ writer/s and _____ coach in the **CALCULATOR APPLICATIONS VIDEO CONTEST** 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 – Curriculum and Learning Management Division (CLMD) of Digos City Division 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 _____, 2023 at _____.

Signature

Signature

Signature

Signature

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



(Annex B)

STUDENT MEDIA RELEASE CONSENT FORM

I, the undersigned, hereby grant the Department of Education – Curriculum Implementation Division of the Schools Division of Digos City 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 agents 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 Student : _____ Date: _____

Address of Student: _____

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 Media Consent and Release.

Parent/Guardian Signature Over Printed Name:

Address: _____

Date: _____



DIVISION MATHEMATICS FAIR 2023

Event 7

Digital SIM in Mathematics – Teacher Category

Chairperson: Mrs. Myrell P. Dumigsi – Digos City National High School

A. BACKGROUND OF SIM

1. What is Digital SIM?

- Digital SIM is a digitalized version of the Strategic Intervention Material. This is an instructional material meant to reteach concepts and skills.
- The SIM is developed by teachers for intervention purposes utilized by learners who failed to master the competency after the class presentation of the lesson, or after an assessment activity like formative test, weekly test, unit test, summative test and periodical examination.
- Learner participants in this activity are determined through their scores or performance after formative or any assessment activities is given.
- The teacher will select 1 competency which will be the basis of SIM from the list of Least Mastered Competencies. This will be included as an attachment in the submission of the action research.
- The teacher should determine the skill(s) and subskill(s) that learners should have in order to develop the target competency and keep this as a guide when writing the SIM.

2. Parts of the SIM

a. The Guide Card

The Guide Card presents the big picture.

- gives an overview of the lesson
- presents the focus skill
- introduces the activity/activities
- engages the learner's interest; and
- leads the learner in performing the tasks

b. The Activity Card

The Activity Card defines the task(s) that the learner should undertake in order to develop the skill.

- The task is competency-oriented and may be individual or group work.
- The purpose of the task is to provide enough practice for the learner so he/she can perform the skill automatically

c. The Evaluation or Assessment Card

The Assessment Card helps the learner measure his/her level of mastery of the skills upon completion of the task(s).

- The result of the assessment identifies the knowledge/skill(s) that the learner may need to develop further or enhance.
- The score of the learners will not be used as basis for his/her grade.

d. The Enrichment Card

The Enrichment Card extends learning by providing additional exercises for further application of knowledge or skill.

e. The Reference Card

The Reference Card provides additional content to the coverage of the textbook. It may also list resources that the learner may refer to for further reading.



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f. The Answer Key

The answer key shall provide answers to all exercises and activities. This is a Self-Learning Material where learners will study and answer with less assistance and supervision from the teacher. The role of the teacher is only to give instructions on what to do and let the students manipulate the material during vacant time or remediation period.

g. Packaging the Digitalized Strategic Intervention Material

- Packaging means putting together the cards to come up with the SIM.
- Teachers are encouraged to make each section brief and simple
- Pictures, diagrams, illustrations and manipulative materials are suggested to make the material attractive and interesting.

B. CONTEST PROPER

1. This is an individual competition open to all Mathematics teachers of the Digos City Division.
2. The SIM shall be based on the least learned skills/competencies of students in Mathematics in Quarter 1 or Quarter 2.
3. There are four categories for this event:
 - 3.1 Key Stage 1 (Grades 1 to 3)
 - 3.2 Key Stage 2 (Grades 4 to 6)
 - 3.3 Key Stage 3 (Grades 7 to 10)
 - 3.4 Key Stage 4 (Grades 11 to 12)
4. There shall be at most two pre-registered teacher-contestants in each district for Key Stage 1 and Key Stage 2; while 3 teacher-contestants per school for Key Stage 3 and Key Stage 4.
5. Pre-registration of contestants will be from March 16, 2023, at 8:00 AM to March 31, 2023, at 5:00 PM.
6. Each teacher-contestant is required to submit action research on the effectiveness of the SIM. Any contestant who fails to do so shall be disqualified from the contest.
7. A soft copy of the SIM will be submitted to the Division Math Summit 2023 Digital SIM Committee on or before April 14, 2023 thru myrell.dumigsi@deped.gov.ph, cc: jemboy.cabrella@deped.gov.ph. The submitted SIMs will be pre-evaluated by the board of Judges. Late SIMs will not be included in the contest.
8. Each contestant will be given at most 10 minutes oral presentation of his/her SIM. Date and venue will be announced later.
9. Judges will be given time to interview each contestant after his/her presentation.

C. SCORING SYSTEM

1. Judges shall rate each entry based on the criteria below.

CRITERIA	POINTS	Suggested points distribution
Subtasking ▪ Competency-based ▪ Bloom's Taxonomy followed ▪ SMAR-C (specific, measurable, attainable, result-oriented and competency-based)	12	4 5 3
Congruence ▪ Activities in-line with content and skills ▪ Assessment in-line with content and skills	15	7 8
Usability/Functionality ▪ Language ▪ Title Card	40	2 2



▪ Guide Card ▪ Activity Card ▪ Assessment Card ▪ Enrichment Card ▪ Reference Card ▪ Answer Card ▪ Packaging		4 14 3 3 2 2 8
Replicability ▪ Validated before classroom use ▪ Developed material based on least mastered skills LC ▪ Material used improved mastery level ▪ Handy and easy to copy ▪ Cost	25	5 5 10 3 2
Contextualization and Localization Activities and assessments use local conditions applicable to the current situation.	8	
TOTAL	100	

- Top 3 winners shall be declared for each category based on the highest accumulated points among all judges.
- In case of tie, the chairman of the board of judges shall break the tie.
- The decision of the board of judges is final and irrevocable.



DIVISION MATHEMATICS FAIR 2023

Event 8

21st Century Skills Demonstration Teaching in Mathematics – Teacher Category

Chairperson: Noryleth A. Virtudazo – Master Teacher I, Digos City Central Elementary School

General Mechanics:

- Any interested Mathematics Teacher from Elementary to Senior High School (SHS) is qualified to join the contest.
- There shall be two teacher-participants per district for elementary level, and three teacher-participants for secondary level with the following categories:
 - Grades 1 to 3
 - Grades 4 to 6
 - Grades 7 to 10
 - Grades 11 to 12
- This will be a face-to face competition which will be held on March to April of 2023. A two-day competition is scheduled for Friday and Saturday. The first day will be for the elementary level, while the Second day will be for the secondary level.
- The competition will simulate a real-life classroom teaching with a maximum duration of **30 minutes**. The participants will demonstrate 21st century skills teaching in Mathematics using a one (1) hour time frame lesson plan.
- The participants can choose any mathematics topics or lessons for the demonstration.
- The lesson plan must be submitted to the event committee a day before the conduct of the contest. The lesson plan shall follow the Semi - detailed Lesson Plan format as stipulated in DepEd Order No. 42, series of 2016.
- Participants must provide their own materials maximizing the use of ICT for the competition.
- The participants will undergo orientation before the contest commence and will head straight to the designated venue, where 10 to 15 students have been set up for the demonstration teaching.
- There shall be a board of judges to decide on questions or clarifications, and their decisions shall be final.
- Rubrics shall be used to determine the score of the participants. (DepEd Order 7, s. 2015 and DepEd Order 3, s. 2016).
- The rubrics shall have six domains covering all aspects of a teacher's job performance.

A. Lesson Planning and Preparation	- 12 points
B. Classroom Management	- 16 points
C. Teaching Learning Process	- 20 points
D. Language Proficiency	- 12 points
E. Assessment and Reinforcing of Learning	- 20 points
F. ICT Integration (Additional Rubrics)	- 20 points
	100 points
- There will be 3 winning participants being the first, second and third based on the judges' ratings per category.

RUBRICS FOR 21ST CENTURY SKILLS DEMONSTRATION TEACHING IN MATHEMATICS

A. Lesson Planning and Preparation	Transforming 4	Developing 3	Emerging 2	Beginning 1
1. Selecting Instructional Objectives	Teacher's objectives reflect high level learning related to curriculum frameworks and	Teacher's objectives represent valuable learning and are suitable for most students in the class; they reflect	Teacher's objectives are of moderate value or suitability for students in the	Teacher's objectives represent trivial learning, are unsuitable for



	standards; they are adapted, where necessary, to the needs of individual students, and permit practical/workable methods of assessment.	opportunities for integration and permit practical/workable methods of assessment.	class, consisting of a combination of objectives and activities, some of which permit practical/workable methods of assessment.	students, or are stated only as instructional activities, and they do not permit practical/workable methods of assessment.
2. Mapping Coherent Instruction	All of the elements of the instructional design support the stated instructional objectives, engage students in meaningful learning, and show evidence of student input. Teacher's lesson or unit is highly coherent and has a clear structure.	Most of the elements of the instructional design support the stated instructional objectives and engage students in meaningful learning and the lesson or unit has a clearly defined structure.	Some of the elements of the instructional design support the stated instructional objectives and engage students in meaningful learning, while others do not. Teacher's lesson or unit has a Recognizable structure.	The various elements of the instructional design do not support the stated instructional objectives or engage students in meaningful learning and the lesson or unit has no defined structure.
3. Instructional Materials, Resources and Technology	All materials and resources support the instructional objectives and key concepts, and most engage students in meaningful learning. There is evidence of student participation in selecting or adapting materials.	All materials and resources support the instructional objectives and key concepts, and most engage students in meaningful learning. Technology used to enhance and support instruction.	Some of the materials and resources support the instructional objectives and key concepts, and some engage students in meaningful learning.	Materials and resources do not support the instructional objectives and key concepts or engage students in meaningful learning.
B. Classroom Management	Transforming 4	Developing 3	Emerging 2	Beginning 1
1. Managing Classroom Procedure	Classroom routines and procedures are seamless in their operation and students assume considerable responsibility for	Classroom routines and procedures have been established and function smoothly for the most part of instruction time.	Classroom routines and procedures have been established, but function unevenly or inconsistently with some of instruction time.	Classroom routines and procedures are partly inefficient resulting in the loss of much instruction time.



	their smooth functioning.			
2. Organizing Physical Space	The classroom environment is safe, and learning is accessible to all students, including those with special needs. The teacher makes effective use of physical resources, including computer technology. The teacher ensures that the physical arrangement is appropriate to the learning activities. Students contribute to the use or adaptation of the physical environment to advance learning.	The classroom is safe, and students have equal access to learning activities; the teacher ensures that the furniture arrangement is appropriate to the learning activities and uses physical resources, including computer technology, effectively.	The classroom is safe, and essential learning is accessible to most students. The teacher makes modest use of physical resources, including computer technology. The teacher attempts to adjust the classroom furniture for a lesson or, if necessary, to adjust the lesson to the furniture, but with limited effectiveness.	The classroom environment is unsafe, or learning is not accessible to many. There is poor alignment between the arrangement of furniture and resources, including computer technology, and the lesson activities.
3. Creating an Environment of Respect and Rapport	Classroom interactions between the teacher and students and among students are highly respectful, reflecting genuine warmth, caring, and sensitivity to students as individuals. Students exhibit respect for the teacher and contribute to high levels of civility among all members of the class. The net result is an environment	Teacher-student interactions are friendly and demonstrate general caring and respect. Such interactions are appropriate to the ages, cultures, and developmental levels of the students. Interactions among students are generally polite and respectful, and students exhibit respect for the teacher. The teacher responds successfully to disrespectful	Patterns of classroom interactions, both between teacher and students and among students, are generally appropriate but may reflect occasional inconsistencies, favoritism, and disregard for students' ages, cultures, and developmental levels. Students rarely demonstrate disrespect for one another. The teacher attempts to respond to	Patterns of classroom interactions, both between teacher and students and among students, are mostly negative, inappropriate, or insensitive to students' ages, cultural backgrounds, and developmental levels. Student interactions are characterized by sarcasm, put-downs, or conflict. The teacher does not deal with



	where all students feel valued and are comfortable taking intellectual risks.	behavior among students. The net result of the interactions is polite, respectful, and business-like, though students may be somewhat cautious about taking intellectual risks.	disrespectful behavior, with uneven results. The net result of the interactions is neutral, conveying neither warmth nor conflict.	disrespectful behavior.
4. Managing Student Behavior	Student behavior is entirely appropriate. Students take an active role in monitoring their own behavior and/or that of other students against standards of conduct. Teacher monitoring of student behavior is subtle and preventive. The teacher's response to student misbehavior is sensitive to individual student needs and respects students' dignity.	Student behavior is generally appropriate. The teacher monitors student behavior against established standards of conduct. Teacher response to student misbehavior is consistent, proportionate, and respectful to students and is effective.	Standards of conduct appear to have been established, but their implementation is inconsistent. The teacher tries, with uneven results, to monitor student behavior and respond to student misbehavior.	There appear to be no established standards of conduct, or students challenge them. There is little or no teacher monitoring of student behavior, and response to students' misbehavior is repressive or disrespectful of student dignity.
C. Teaching – Learning Process	Transforming 4	Developing 3	Emerging 2	Beginning 1
1. Knowledge of Content and Pedagogy	Teacher's knowledge of content and pedagogy is extensive, showing evidence of continuing search for improved practice. The teacher actively builds on knowledge of prerequisites and misconceptions when describing instruction or	Teacher demonstrates solid understanding of the content and its prerequisites relationships and connections with other disciplines. Teacher's instructional practices reflect current pedagogical knowledge. The teacher demonstrates	Teacher's content and pedagogical knowledge represents basic understanding but does not extend to connections with other disciplines or to possible student misconceptions. The teacher demonstrates slightly effective application of any of the five learning theories	Teacher displays little understanding of the subject or structure of the discipline or of content-related pedagogy. The teacher DOES NOT demonstrate application of any of the five learning theories and principles of K to 12 Math curriculum framework,



	seeking causes for student misunderstanding. The teacher demonstrates extremely effective application of any of the five learning theories and principles of K to 12 Math curriculum framework, namely: experiential and situated learning, discovery and inquiry-based learning, cooperative learning, reflective learning, and constructivism.	moderately effective application of any of the five learning theories and principles of K to 12 Math curriculum framework, namely: experiential and situated learning, discovery and inquiry-based learning, cooperative learning, reflective learning, and constructivism.	and principles of K to 12 Math curriculum framework, namely: experiential and situated learning, discovery and inquiry-based learning, cooperative learning, reflective learning, and constructivism.	namely: experiential and situated learning, discovery and inquiry-based learning, cooperative learning, reflective learning, and constructivism.
2. Questioning and Discussion Skills	Teacher formulates many of the level questions and assumes responsibility for the participation of all students in the discussion.	Teacher's use of questioning and discussion techniques reflects high-level questions, true discussion and full participation by all students.	Teacher's use of questioning and discussion techniques is uneven, with some high-level questions, attempts at true discussion and moderate student participation.	Teacher makes poor use of questioning and discussion techniques, with low-level questions limited student participation and little true discussion.
3. Students' Learning	Students are intellectually engaged in challenging content, through well-designed learning task and suitable scaffolding by the teacher and fully aligned with the instructional outcomes. There is evidence of some student	The learning tasks and activities are aligned with the instructional outcomes and are designed to challenge student thinking resulting in active intellectual engagement by most students with important and challenging content and with	The learning tasks or prompts are partially aligned with the instructional outcomes but require only minimal thinking by students, allowing most students to be passive or merely compliant. The pacing of the lesson may not	The learning task and activities, materials, resources, instructional groups and / or technology are poorly aligned with the instructional outcomes or require only role responses. The pace of the lesson is to slow or



	initiation of inquiry and student contributions to the exploration of important content. The pacing of the lesson provides students the time needed to intellectually engage with and reflect upon their learning and to consolidate their understanding.	teacher scaffolding to support that engagement. The pacing of the lesson is appropriate, providing most students the time needed to be intellectually engaged.	provide students the time needed to be intellectually engaged.	rushed. Few students are intellectually engaged or interested.
4. Students' Response to Activities	All students are cognitively engaged in the activities and their exploration of content. Students initiate or adapt activities and project to enhance understanding.	Most of the activities are appropriate to the students. Almost all of the students are cognitively engaged in them.	Some activities are appropriate to students and engage the, cognitively nut others do not.	Activities are inappropriate for students in terms of their age or backgrounds. Students are not engaged mentally.
5. Learning Activities	Learning activities are highly relevant to students and instructional objectives and key concepts. They progress coherently, producing a unified whole and reflecting recent professional research.	Most of the learning activities are suitable to students and instructional objectives and key concepts. Progression of activities in the unit is fairly even, and most activities reflect recent professional research.	Only some of the learning activities are suitable to students or instructional objectives and key concepts. Progression of the activities in the unit is uneven and only some activities reflect recent professional research.	Learning activities are not suitable to students or instructional objectives and key concept. They do not reflect recent professional research.
D. Language Proficiency	Transforming 4	Developing 3	Emerging 2	Beginning 1
1. Use of Language	Teacher's spoken and written language is correct and expressive with well-chosen vocabulary that	Teacher's spoken and written language is clear and correct. Vocabulary is appropriate to students' age and interests.	Teacher's spoken language is audible and written language is legible. Both are used correctly. Vocabulary is correct but limited	Teacher's spoken language is inaudible or written language is illegible. Spoken or written language may contain many



	enriches the lesson.		or is not appropriate to students' age or backgrounds.	grammar syntax errors, vocabulary may be inappropriate, vague or used incorrectly leaving students confused.
2. Conveyance of information and ideas	Conveys information and ideas with clarity	Conveys information and ideas with considerable clarity.	Conveys information and ideas with limited clarity.	Presents orally using correct intonation and body language to clarify a message.
3. Communicating with Students	Teacher creates a learning environment where the lesson's purpose is clearly known by students as demonstrated through extending and connecting the lesson to the larger curriculum. and students demonstrate knowledge of content by using appropriate vocabulary and language consistently with peers in both oral and written forms; content explanations are thorough, accurate, and complete.	Teacher clearly states the lesson's purpose and uses vocabulary and language appropriately and accurately. and explains content using appropriate vocabulary and language consistently; content explanations are thorough, accurate, complete and on grade level.	Teacher attempts to explain the lesson's purpose with minimal success. and explains content using vocabulary and language inconsistently and/or above or below grade level; content explanations contain minor errors.	Teacher fails to explain the lesson's purpose or connect the lesson to the larger curriculum. and explains content using vocabulary and language incorrectly and/or above or below grade level; content explanations contain major errors
E. Assessment of Learning Outcomes	Transforming 4	Developing 3	Emerging 2	Beginning 1
1. Congruence with Instructional Objectives	The assessment is completely congruent with the instructional objectives and key concepts, both in	All the instructional objectives and key concepts are assessed through the proposed plan, but the approach	Some of the instructional objectives and key concepts are assessed through the proposed	Content and methods of assessment lack congruence with instructional objectives and key concepts.



	content and process	is more suitable to some goals than to others.	approach, but many are not.	
2. Using Questioning and Discussion Techniques	Teacher uses proven and effective questioning techniques that encourage higher order thinking and dialogue and engages all learners in the discussion and steps aside when appropriate, allowing students to control the discussion.	Teacher uses effective questioning techniques and dialogue, eliciting participation and dialogue and engages all learners in content rich discussions.	Teacher occasionally uses effective questioning techniques, eliciting some participation and dialogue. and provides minimal opportunities that promote content rich discussions.	Teacher questions are of low cognitive challenge with single correct responses, eliciting limited participation and dialogue. and dominates the online conversation with little/no content rich discussions.
3. Assessing Student Learning	Teacher's plan for student assessment is fully aligned with the instructional outcomes, with clear criteria and standards that show evidence of student contribution to their development.	Teacher's plan for student assessment is aligned with the instructional outcomes, using clear criteria, is appropriate to the needs of students. Teacher intends to use assessment results to plan for future instruction for group of students.	Teacher's plan for student assessment is partially aligned with instructional outcomes, without clear criteria and inappropriate for at least some students. Teacher intends to use assessment results to plan for future instruction for the class as a whole.	Teacher's approach to assessing student learning contains no clear criteria or standards and lacks congruence with the instructional objectives. The results of assessment have minimal impact on the design of future instruction.
4. Using Assessment in Instruction	Students have a clear understanding of the success criteria associated with how their learning will be assessed in an online environment and have co - constructed the criteria with the teacher	Students have a clear understanding of the success criteria associated with how their learning will be assessed in an online environment	Students have some understanding of the success criteria associated with how their learning will be assessed in an online environment.	Students are unclear regarding the success criteria associated with how their learning will be assessed in an online environment



E. Reinforcement of Learning	Transforming 4	Developing 3	Emerging 2	Beginning 1
1. Providing Opportunities to Strengthen Understanding and Performance	The teacher integrated and carried out the plan for reinforcing learning through well-defined agreement and established connection to next lesson.	The teacher integrated and carried out the plan for reinforcing learning through well-defined task as an agreement and but unable to establish connection to the next lesson.	The teacher integrated agreement in the plan without traces of reinforcing learning and connecting it to the next lesson.	The teacher failed to integrate and carry out the provision for reinforcing learning of the lesson taught.

F. ICT INTEGRATION

Criteria	4	3	2	1
ACTIVE Students are actively engaged in educational activities where technology is a transparent tool used to generate and accomplish objectives and learning.	Students seamlessly organize the tasks and formulate products, discussions, or investigations using any appropriate technologies available.	Students focuses on learning tasks, and purposely combine technology tools to design desired outcomes based on their own ideas	Students choose or modify the technology-related tools most appropriate for learning tasks.	Students occasionally use specified technology tools to plan or create end products.
COLLABORATIVE Students use technology tools to collaborate with others	Students seamlessly use technology tools to globally collaborate with peers and experts	Students select technology tools to facilitate and enhance collaboration in all aspect of their learning.	Students have opportunities to select and employ technology tools to facilitate and enhance	Students are allowed the opportunities to utilize collaborative tools in conventional
CONSTRUCTIVE Students use technology to understand content and add meaningful to their learning.	Students use technology to construct, share and publish new knowledge to an appropriate audience	Students make connections with technology tools to construct deeper understanding across disciplines.	Students have opportunities to choose and manipulate technology tools to assist them in molding their understanding.	Students begin to use constructive technology tools to build upon prior knowledge and construct meaning.
AUTHENTIC Students use technology tools to solve real-world problems meaningful to them, such as digital citizenship.	Students participate in meaningful projects that require problem-solving strategies and facilitate global awareness through the utilization of technology tools.	Students select appropriate technology tools to complete authentic task across disciplines while modeling digital etiquette and responsible social interactions.	Students have opportunities to select and utilize the appropriate technology tools and digital resources to solve problem based on real-world issues.	Students are allowed opportunities to employ technology tools to connect contents – specific activities that are based on real-world problems.



GOAL DIRECTED Students use technology tools to research data, set goals, plan activities, monitor progress and evaluate results.	Students engage in ongoing metacognitive activities with reflection or connected purpose, supported by technology tools	Students use technology tools to set goals, plan activities, monitor progress and evaluate results throughout the curriculum.	Students have opportunities to select and modify the use of technology tools to facilitate goal-setting, planning, monitoring, and/or evaluating specific activities.	From time to time students have the opportunity to use technology to either plan, monitor or evaluate an activity.
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Republic of the Philippines
Department of Education
Region XI
SCHOOLS DIVISION OF DIGOS CITY
Digos City



7158

Training Activity Plan (Training Design)

Program	L&D for Mathematics Teachers				
Activity Title	Division Mathematics Fair 2023 cum Training of Coaches for Selected Math Competitions				
General Objective	1. Awaken greater interest in Mathematics among elementary, junior high school, and senior high school learners in the division; 2. Challenge the learners to strive for mathematical excellence; 3. Empower mathematical talents with awards and recognition for them to serve as models to the youth; 4. Enhance teacher-coaches' skills and strategies in mathematics teaching and coaching for both mathematics quiz bee and rubik's cube, tower of Hanoi, <i>mathematikula</i>, mathematics and computational sciences, graphing calculator video contest; 5. Encourage teachers to develop digital strategic intervention materials (SIM) in Mathematics; and 6. Showcase teachers' pedagogical knowledge and skills through 21st century skills demonstration teaching				
Specific Objectives	1. Conduct mathematics competitions as demonstration of understanding concepts in the subject; 2. Provide opportunities to teachers to demonstrate pedagogical knowledge and skills in teaching Mathematics; 3. Capacitate winning coaches and learners for the Math quiz and mathematics and computational science by providing training and technical assistance; and 4. Use problem based learning on training of teachers for math quiz coaching				
Proposed Date	April 21, 22, 28 and 29, 2023				
Amount	Php 39,000.00				
Source of Funds	CID-HRTD				
Items of Expenditures	Number of Pax Required	Unit Cost	Days Required	TOTAL	Source of Funds
Snacks, meals, and without venue					
Lunch for April 21, 2023	50	200.00	1	10,000.00	CID-HRTD
Lunch for April 22, 2023	20	200.00	1	4,000.00	CID-HRTD
Lunch for April 28, 2023	25	200.00	1	5,000.00	CID-HRTD
Lunch for April 29, 2023	25	200.00	1	5,000.00	CID-HRTD
Materials, tools and equipment				15,000.00	CID-HRTD
TOTAL				39,000.00	CID-HRTD
Rationale	Project LABANG is implemented in DepEd Digos City Division with the aim to ensure efficiency and effectiveness of the learning delivery to address learning loss, and narrow the learning gap in numeracy among learners from Grades 1 to 11. Part of the activities of the Numeracy Catch-up is the conduct of Division Mathematics Fair which is scheduled in April 2023. This activity is intentionally designed to maximize participation of students in Mathematics activities which can improve their competencies in the different subject matters such as visualization of whole numbers, fractions and decimals in elementary and mastery of the lessons in integers, rational numbers, polynomials and functions in the secondary level.				

Furthermore, Mathematics activities such as mathematics fair in the district, division, regional and national levels are much awaited each year. In the previous school years, District, Division, and Regional Mathematics Olympics, Metrobank-MTAP-DepEd Mathematics Challenge (MMC), Philippine Mathematical Olympiad, Vedic Mathematics Olympiad, and the like had been held.

The Numeracy Skills Enhancement Team and Program Management Team for the Division Mathematics Fair of the Schools Division of Digos City is motivated to conduct Division Mathematics Fair 2023 as of the ways to demonstrate knowledge and skills of among learners acquired from numeracy catch-up activities which form part of the Project LABANG activities. This year's mathematics fair is the culminating activity where learners are collectively gathered face-to-face to empower mathematical talents to serve as models of the youth. This fair also showcases the pedagogical knowledge and skills of teachers as they participate in the 21st century skills demonstration teaching, and encourages them to prepare strategic intervention materials in mathematics to address the least-mastered competencies in the learning area identified in the first and second quarters.

The selected events for this online mathematics fair are those which were previously conducted in the Regional Mathematics Olympics and are found feasible to be conducted face-to-face. There are only four events, namely: (1) Mathematics Quiz, (2) Rubik's Cube, (3) Tower of Hanoi, (4) *Mathematikula*, (5) Mathematics and Computational Sciences, (6) Graphing Calculator Video Contest, (7) Proposed Digital SIM in Mathematics, and (8) 21st Century Skills Demonstration Teaching in Mathematics – Teacher Category.

The Numeracy Skills Enhancement Team finds it a necessity believing that this can contribute to the enhancement of mathematical skills of the learners, and in that way the academic performance of the learners in mathematics will eventually increase as these motivate learners and mathematics teachers to strive for excellence. The more learners and teachers are engaged in this fair, the more mathematical abilities and skills are improved. That is why schools with the leadership of the school heads are encouraged to participate in this Division Mathematics Fair 2023. With the above-mentioned premise, this activity design is proposed.

General Methodology	Lecture (problem-based learning), competitions, and training of coaches
Learning Facilitator	Jem Boy B. Cabrella, PhD, Eduardo P. Paller, Jr., Rex C. Sayson, Noryleth A. Virtudazo, Jouy Hope A. Silabay, Cathelene N. Cabras, Jernalyn L. Castro, and Wellisa P. Milca
Participants	20 to 50 participants, 1 EPS, 12 technical working group

SCHEDULE OF ACTIVITIES PER DAY

Time	Session Objectives	Activity/Session	Expected Outputs	Topic/Content	Methodology	Person Responsible	Resources Needed
•Day 1:							
8:00-8:30 AM	To register the participants	Arrival/registration	Attendance	None	None	TWG	Attendance sheets
8:30-9:00 AM	To set the mood of the participants	Opening Program	Opening Program	None	AVP	TWG	Laptop, projector, screen, sound system
9:00 – 12:00 PM	To conduct competitions of the following events: 1. Division Math Quiz	Competitions of the following events:	Contest results	None	Contest	TWG	Contest guidelines, DLP, bond papers, rubik's cube,



	2. Rubik's Cube 3. Tower of Hanoi	1. Division Math Quiz 2. Rubik's Cube 3. Tower of Hanoi					and Tower of Hanoi device
12:00 – 1:00 PM	Lunch Break						
1:00 – 5:00 PM	To conduct competitions of the following events: 1. Division Math Quiz 2. Rubik's Cube 3. Tower of Hanoi	Continuation of the Competitions of the following events: 1. Division Math Quiz 2. Rubik's Cube 3. Tower of Hanoi	Contest results	None	Contest	TWG	Contest guidelines, DLP, bond papers, rubik's cube, and Tower of Hanoi device
Day 2:							
8:00 – 12:00 PM	To conduct competitions of the following events: 1. <i>Mathematika</i> 2. Math and computational science 3. Graphing calculator video contest 4. Digital SIM in Mathematics 5. 21 st Century Skills demo teaching	Competitions of the following events: 1. <i>Mathematika</i> 2. Math and computational science 3. Graphing calculator video contest 4. Digital SIM in Mathematics 5. 21 st Century Skills demo teaching	Contest results	None	Contest	TWG	Contest guidelines, DLP, bond papers and materials needed for the 5 events
12:00 – 1:00 PM	Lunch Break						
1:00 – 5:00 PM	To conduct competitions of the following events: 1. <i>Mathematika</i> 2. Math and computational science 3. Graphing calculator video contest 4. Digital SIM in Mathematics 5. 21 st Century Skills demo teaching	Continuation of the competitions of the following events: 1. <i>Mathematika</i> 2. Math and computational science 3. Graphing calculator video contest 4. Digital SIM in Mathematics 5. 21 st Century Skills demo teaching	Contest results	None	Contest	TWG	Contest guidelines, DLP, bond papers and materials needed for the 5 events



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9 AM	To conduct pretest	Pretest	Pretest results	None	Paper and pen test	TWG	Test paper 7
12:00 PM	To discuss problems related to fractions and decimals To discuss problems related to sets	Discussion on Problem Solving Involving Fractions and decimals Discussion on Problem Solving Involving Sets	Activity outputs	Problem Solving Involving Fractions and decimals Problem Solving Involving Sets	Breakout session	Rex Sayson Jernalyn L. Castro	DLP, activity sheets
12:00 – 1:00 PM	Lunch Break						
1:00 – 5:00 PM	To discuss problems related to ratio and proportion To discuss problems related to linear, quadratic, and polynomial functions	Discussion on Problem Solving Involving ratio and proportion Discussion on Problem Solving Involving linear, quadratic, and polynomial functions	Activity outputs	Problem Solving Involving ratio and proportion Problem Solving Involving linear, quadratic, and polynomial functions	Breakout session	Eduardo P. Paller, Jr. Wellisa P. Milca	DLP, activity sheets
Day 4:							
8:00 – 12:00 PM	To discuss problems related to counting techniques and arrangements To discuss problems related to unit circles and trigonometric functions	Discussion on Problem Solving Involving FCP, Permutations and Combinations Discussion on Problem Solving Involving Unit Circles and Trigonometric Functions	Activity outputs	Solving Involving FCP, Permutations and Combinations Problem Solving Involving Unit Circles and Trigonometric Functions	Breakout session	Jouy Hope A. Silabay Jem Boy B. Cabrella	DLP, activity sheets
12:00 – 1:00 PM	Lunch Break						
1:00 – 3:45 PM	To discuss problems related to base, rate and percentage To discuss problems related to FCP,	Discussion on Problem Solving Involving Base, Rate and Percentage Discussion on Problem Solving to FCP,	Activity outputs	Problem Solving Involving Base, Rate and Percentage Problem Solving Involving to FCP,	Breakout session	Noryleth A. Virtudazo Cathelene N. Cabras	DLP, activity sheets



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	permutations and combinations	permutatio ns and combinatio ns		permuta tions and combina -tions			
3:45 – 4:00 PM	To facilitate QATAME	QATAME	QATAME rating	QATAME	Plenary Session	SEPS, SMM&E	Google sheet link/QR code, DLP
4:00 – 4:30 PM	To administer the posttest	Posttest	Posttest answers	Posttest	Plenary Session	TWG	Test Paper
4:30 – 5:00 PM	To conduct the Closing Program	Closing Program		Closing Program	Plenary Session	TWG	DLP

Notes:

1. Day 1: Lunch only
2. Day 2: Lunch only
3. Day 3: Lunch only
4. Day 4: Lunch only
5. Number Resource Persons to be Charged to Division Funds: 120

Prepared by:

JEM BOY B. CABRELLA
Education Program Supervisor
01-31-23

Noted by:

BEVERLY S. DAUGDAUG, EdD
Chief, CID

Recommending approval:

BASILIO P. MANA-AY, JR., EdD
Assistant Schools Division Superintendent

Funds Available:

NEPTUNE L. TAMBILAWAN
AO IV - Budget Office
2/1/23

Approved by:

CRISTY C. EPE
Schools Division Superintendent

