



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

Office of the Schools Division Superintendent

DIVISION MEMORANDUM

CID-2024-030

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

Subject : **CONDUCT OF PRELIMINARY ACTIVITIES FOR THE 2024 DIVISION MATHEMATICS FAIR**

Date : January 24, 2024

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 2024 Division Mathematics Fair will be conducted on February 16, 2024 at Don Mariano Marcos Elementary School. The theme of this year's Division Mathematics Fair is "Problem Solving and Critical Thinking in Mathematics Education: Unleashing the Potential of 21st Century Learners 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. provide opportunities to teachers to demonstrate writing skill through development of digital SIM in Mathematics and mathematical skill in the development of mathematical investigation.
5. enhance teachers' skills and strategies in mathematics coaching for mathematics quiz, DAMATH, Rubik's cube, tower of Hanoi, and Math debate and developing Mathematical investigation;
6. showcase teachers' skills in developing Mathematical Investigation; and
7. encourage teachers to develop strategic intervention materials (SIM) in Mathematics, which can be subjected to quality assurance through LRMDs Office.

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

1. Event 1 – Division Math Quiz
2. Event 2 – DAMATH
3. Event 3 – Rubik's Cube
4. Event 4 – Tower of Hanoi
5. Event 5 – Mathematics and Computational Science



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6. Event 6 – Math Debate
7. Event 7 – Digital SIM in Mathematics (Teacher Category)
8. Event 8 – Mathematical Investigation (Teacher Category)

Below is the matrix of activities, venue/modality and timeline before the 2024 Division Mathematics Fair, to wit:

No.	Activities	Venue/ Modality	Date	Persons Involved
1	Planning Conference for 2024 Division Mathematics Fair	Online	Jan. 25, 2024 (Thursday) at 3:00 PM	EPS-Math, PSDSs, Numeracy Skills Enhancement Team, Event Heads, District and School Math Coordinators
2	Pre-registration of participants to the different events	Online	Jan. 26, 2024 at 8:00 AM to Feb. 5, 2024 at 11:59 PM for Division Math Quiz and Feb. 11, 2024 at 11:59 PM for other events	District and School Math Coordinators, Overall Chairperson and Over-all Co-Chairperson, Event Heads, EPS-Math, School Heads, Coaches and PSDSs
3	Online Conference of Technical Working Group of the 2024 Division Mathematics Fair	Online	Feb. 6, 2024 to Feb. 13, 2024	Technical Working Group, District Mathematics Coordinators, and EPS-Math
4	Elimination Round for the Division Math Quiz	Face-to-Face / Digos City NHS	Feb. 9, 2024 from 8:00 AM to 12:00 NN	District and School Math Coordinators, Overall Chairperson and Over-all Co-Chairperson, Math Quiz Event Head, and EPS-Math
5	Onsite Visit of the Venue	Face-to-Face	Feb. 13, 2024 (Tuesday) at 9:00 AM	District Math Coordinators, Event Heads and Co-event Heads, and EPS-Math

Guidelines and mechanics of all events and other relevant materials can be accessed through the google drive link <http://tinyurl.com/2024DMFMaterials>.

Attached herewith are the following:

- a. Enclosure 1 – Program Management Team
- b. Enclosure 2 – List of Event Heads, Co-Event Heads, Overall Chairperson and Overall Co-Chairperson
- c. Enclosure 3 – Technical Working Group for the Conduct of the Elimination Round for the Division Math Quiz
- d. Enclosure 4 – Committees and Technical Working Group for the Final Round



Service credits shall be granted to all members of the Technical Working Group (TWG) and coaches 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
Schools Division Superintendent

MARIA GENEVIEVE T. FRANCISQUETE, CESO VI
Asst. Schools Division Superintendent
Officer-In-Charge

DepEd Schools Division of Digos City
RECORDS SECTION
24 115891
DATE: JAN 23 2024 TIME: 3:49 PM
BY: [Signature]



Program Management Team

Steering Committee:

Chairperson: Melanie P. Estacio, PhD, CESO VI – Schools Division Superintendent

Co-Chairperson: Maria Genevieve T. Francisquette – 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:

Jernalyn L. Castro – 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

Rizza L. Villaluna – Math Adviser, Secondary Schools 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

Gary M. Nugas – Master Teacher Digos City NHS Representative

Myrell P. Dumigsi – District Math Coordinator, Secondary Schools District

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

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

Hazel P. De Leon – District Math Coordinator, Digos South District

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



List of Event Heads, Co-Event Heads, Overall Chairperson and Overall Co-Chairperson

Overseer: Dr. Jem Boy B. Cabrella – EPS-Math
Overall Chairperson: Jernalyn L. Castro – Master Teacher II/OIC-Math Department Head, Digos City NHS
Overall Co-Chairperson: Gary M. Nugas – Master Teacher I, Digos City NHS

Event #	Name of Event	Event Head	Co-Event Head/s
1	Division Mathematics Quiz	Eduardo P. Paller, Jr. Principal I Binaton ES	Rex C. Sayson Master Teacher I Dulangan ES Sergio Castro Teacher III Digos City NHS
2	DAMATH	Romeo J. Antepuesto Teacher III Digos City NHS	Virgilio F. Poncardas Master Teacher I Digos City NHS
3	Rubik’s Cube	R-jhon C. Alag Master Teacher II Digos City NHS	Elinor Pinky O. Nartea Teacher I Digos City NHS
4	Tower of Hanoi	Arnel S. Yañez Teacher III Digos City NHS	Raul Baron Teacher III Ramon Magsaysay CES
5	Mathematics and Computational Sciences	Dr. Wellisa P. Milca Master Teacher II Digos City NHS	Dr. Veronica T. Delima Master Teacher III Digos City NHS
6	Math Debate	Kremia Katrina C. Thiam Teacher III Digos City NHS	Jhobelle P. Racho Teacher III Digos City NHS
7	Digital SIM in Mathematics	Myrell P. Dumigsi Master Teacher I Digos City NHS	Lee Glenda C. Precellas Teacher II Pedro V. Basalan ES
8	Mathematical Investigation	Engr. Juner O. Gultiano Teacher II SHS in Digos City	Ana Marie L. Cabigas Teacher II SHS in Digos City



Technical Working Group for the Conduct of Elimination Round
of the Division Math Quiz

Technical Working Group (TWG)

Overseer: Dr. Jem Boy B. Cabrella – EPS-Math
Overall Chairperson: Mrs. Jernalyn L. Castro – Master Teacher II, Digos City NHS
Overall Co-Chairperson: Mr. Gary M. Nugas – Master Teacher I, Digos City NHS

ROOM 1: Division Mathematics Quiz						
Event Head: Eduardo P. Paller, Jr. Co-Event Heads: Rex Sayson (Elementary) Sergio L. Castro (JHS & SHS)						
ELEMENTARY						
Role	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
Proctors	Ellen R. Coles	Lloyd Cervantes	Irish Caminade	Jhobelle Racho	Denzel Aquino	Jesmarie Peñol
	Fhoebe Tolero	Greco Dasmariñas	Hanna Depacaquib o	Agan Mark Villasan	Bernard Laniohan	Reynaldo Gonzales Jr.

ROOM 2: Division Mathematics Quiz						
ELEMENTARY						
Role	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
Proctors	Michael Louise Nieves	Grace D. Alvarado	Melanie Borlaza	Wilmer Mabalod	Eiffel Montebon	Glent Ian Delima
	Mark Klien Pagas	Liwayway Fuenticilla	Ralph Dale Quion	Florence M. Panay	Josette Iris Duldulao	Ferlyn Mae Depacaquibo

ROOM 3: Division Mathematics Quiz						
ELEMENTARY						
Role	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
Proctors	Cloyd John Cabras	Ralph Lim	Elinor Pinky Nartea	Juna Mae Aresco	Norelyth Virtudazo	Jacquelyne Tenebro
	Hazel Salao	Julita R. Colita	Corazon Lusbog	Jesa May Noval	Rex Sayson	Prince Kenneth Bangay

Room 1: Division Math Quiz					
Junior High School/Senior High School					
Role	Grade 7	Grade 8	Grade 9	Grade 10	Grade 11
Proctors	Emelita B. Cabano	Arnel Yañez	Ellen Payapaya	Myrell P. Dumigsi	Dr. Wellisa P. Milca



	Virgilio Poncardas	Elline Chan	Gary M. Nugas	Josephine Lamigo	Juner Gultiano
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Room 2: Division Math Quiz					
Junior High School/Senior High School					
Role	Grade 7	Grade 8	Grade 9	Grade 10	Grade 11
P r o c t o r s	Jernalyn L. Castro	R-Jhon Alag	Sergio L. Castro	Sylvia Luz Degamo	Dr. Veronica T. Delima
	Jane Y. Armamento	Ellen O. Nacua	Aldwin Escalona	Kremia Katrina Thiam	Jhobelle P. Racho

Additional Proctors if needed:

1. Marcel Orge
2. Jayffer Sartorio
3. Alden Degamo
4. Romeo Antepuesto
5. Rio Calamuhoy
6. Ginie Guy Sanico
7. Dorena Aldaya



Committees and Technical Working Group

Overseer: Dr. Jem Boy B. Cabrella – EPS-Math
Overall Chairperson: Mrs. Jernalyn L. Castro – Master Teacher II,
Digos City NHS
Overall Co-Chairperson: Mr. Gary M. Nugas – Master Teacher I,
Digos City NHS

1. Division Mathematics Quiz Final Round						
Event Head: Eduardo P. Paller, Jr. Co-Event Heads: Rex C. Sayson (Elementary) Sergio L. Castro (JHS & SHS)						
ELEMENTARY						
Role	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Quiz Master	Ellen R. Coles	Lloyd Cervantes	Irish Caminade	Noryleth Virtudazo	Denzel Aquino	Genie Guy Sanico
2. Timekeeper/Scorer	Fhoebe Tolero	Greco Dasmariñas	Hanna Depacaquib o	Agan Mark Villasan	Bernard Laniohan	Sittie Aine Macatbar
3. Judge	Rema Ramos	Liwayway Fuenticilla	Grace D. Alvarado	Rex Sayson	Ruth Hingco	Eduardo Paller Jr.

JHS/SHS					
Role	Grade 7	Grade 8	Grade 9	Grade 10	Grade 11
1. Quiz Master	Eiffel T. Montebon	Jane Armamento	Ellen Nacua	Jacqueline Tenebro	Josephine Lamigo
2. Timekeeper/Scorer	Ralph Lim	Alden Degamo	Earl John Ares	Sylvia Degamo	Elline Chan
3. Judge	Jernalyn L. Castro	Sergio L. Castro	Wellisa P. Milca, PhD	Gary M. Nugas	Jem Boy B. Cabrella, PhD

Total No. of TWGs: 36

2. Rubik's Cube					
Event Head : R-Jhon C. Alag Co-Event Head: Elinor Pinky O. Nartea					
	Grades 3 & 4	Grades 5 & 6	Grades 7 & 8	Grades 9 & 10	Grades 11 & 12
1	Melanie Borlaza	Wilmer Mabalod	Ellen Payapaya	Herick Reel Sordilla	Cloyd John Cabras
2	Ralph Dale A. Quion	Florence M. Panay	Corazon Lusbog	Marcel Orge	Hazel Salao

Total No. of TWGs: 12



3. Tower of Hanoi Event Head: Arnel S. Yañez Co-Event Head: Raul Baron						
Grades 3	Grade 4	Grade 5	Grade 6	Grades 7 & 8	Grades 9 & 10	Grades 11 & 12
Michael Louise P. Nieves,	Rogel Bulat-ag	Julita Colita	Dorena Aldaya	Prince Bangay	Michael Nieves	Arnel Yanez
Mark Klien D. Pagas	Jesa Mae Noval	Mark Klien D. Pagas	Jesa Mae Noval	Rogel Bulat-ag	Julita Colita	Raul Baron
Total No. of TWGs: 9						

4. Mathematics Debate			
Chairperson	Co-chairperson	Member	Judges
Kremia Katrina Thiam	Jhobelle Racho	Josette Iris Duldulao	
Total No. of TWGs: 3			

5. Mathematics and Computational Sciences			
Chairperson	Co-chairperson	Member	Judges
Wellisa P. Milca	Veronica T. Delima	Lecilyn Gultiano	
Total No. of TWGs: 3			

6. DAMATH Event Head: Romeo Antepuesto Co-Event Head: Virgilio F. Poncardas							
Facilitators							
	Grades 3 & 4	Grades 5 & 6	Grade 7	Grade 8	Grade 9	Grade 10	Grade 11
1	Cloyd John Cabras	Wilmer Mabalod	Virgilio Poncardas	Marcel Orge	Aldwin Escalona	Neryl Joy Banawan	Rio Calamohoy
2	Hazel Salao	Florence M. Panay	Corazon Lusbog	Absalom Legaspi	Rey Angelica Tampus	Mae Amor Paracullos	Jacquelyne Tenebro
Total No. of TWGs: 15							

7. Digital SIM in Mathematics			
Chairperson/Event Head	Co-Chairperson / Co-Event Head	Member	Judges
Myrell P. Dumigsi	Lee Glenda Precellas	Eve Bernadette Tarle	
Total No. of TWGs: 3			

8. Mathematical Investigation		
Chairperson/Event Head	Co-Chairperson / Co-Event Head	Judges
Juner Gultiano	Ana Marie Cabigas	
Total No. of TWGs: 2		



9. Secretariat Committee		
Chairperson	Co-Chairperson	Members
Emelita B. Cabano	Juna Mae Aresco Jesa May Noval	Jane Armamento Nelson Diamante

Total No. of TWGs: 5

10. Program Committee		
Chairperson	Co-Chairperson	Member
Jayffer Sartorio	Ferlyn Mae S. Depacaquibo	Jesa Noval

Total No. of TWGs: 3

11. Letters and Certificates Committee		
Chairperson	Co-Chairpersons	Member
Eiffel T. Montebon	Myrell P. Dumigsi Ellen Nacua	Prince Bangay Glent Ian Delima

Total No. of TWGs: 5

12. Souvenir Committee		
Chairperson	Co-Chairperson	Member
Ferlyn Mae S. Depacaquibo	Dorena Aldaya	Ralph Lim

Total No. of TWGs: 3

13. SocMed Documentation/Pubmats/Logo Design Committee		
Chairpersons	Co-Chairperson	Member
Jaymark Alocelja	Lee Wilson C. Precellas	Demonsthenes Cajes

Total No. of TWGs: 3

14. Medals and Awards Committee		
Chairperson	Co-Chairperson	Member
Grace D. Alvarado	Joel A. Cartajena	Lloyd Cervantes

Total No. of TWGs: 3

15. Food Committee		
Chairperson	Co-Chairperson	Members
Noryleth Virtudazo	Gian Glent T. Delima	Anabelle Thiam Cheryll Espinosa

Total No. of TWGs: 5

16. Stage Decoration Committee		
Chairperson	Co-Chairpersons	Members
Edsel Nacua Principal III, DMMES	Jernalyn L. Castro Ruth A. Hingco	Jacqueline Tenebro Prince Kenneth Bangay Michelle W. Violan Lorelai O. Casoñete Ruth A. Hingco Selected Male DMMES Teachers

Total No. of TWGs: 9

17. Venue Preparation and Restoration Committee		
Chairperson	Co-Chairperson	Members
Edsel Nacua Principal III, DMMES	Sergio L. Castro	Virgilio Poncardas Rio Calamohoy R-Jhon C. Alag Reynaldo Gonzales Arnel S. Yañez Selected Male DMMES Teachers

Total No. of TWGs: 7

18. Contest Rooms and Venues		
Chairperson	Co-Chairperson	Members
Ruth A. Hingco	Michelle W. Violan	Lorelai O. Casoñete

Total No. of TWGs: 6
Overall number of TWGs ----90

- Notes:
1. Some teachers have two events to facilitate.
 2. Still Lack judges for special events





Republic of the Philippines
Department of Education
Region XI
SCHOOLS DIVISION OF DIGOS CITY
SY 2023 – 2024

GUIDELINES AND MECHANICS OF 2024 DIVISION MATHEMATICS FAIR EVENTS

Event 1: Division Math Quiz

Event Head: Mr. Eduardo P. Paller, Jr. - Principal I, Binaton Elem School

1. Division Math Quiz offers Individual and Team Oral Categories which will be participated 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 opened from January 26, 2024 at 8:00 AM to February 5, 2024 at 11:59 PM through the google sheet with the link <http://tinyurl.com/Prereg2024DivisionMathFair>. The Division Elimination is scheduled on February 9, 2024 at Digos City National High School and the Division Team Finals will be on February 16, 2024 at Don Mariano Marcus Elementary School.
3. Division Mathematics Quiz will be facilitated as Metrobank-MTAP-DepEd Math Challenge-like. However, some modifications will be applied.
4. Private Schools are encouraged to participate.
5. There are two rounds in the Division Level – Elimination and Final rounds.
6. **Division Elimination Round**
 - 6.1 For Grades 1 to 11, public and private schools may send a minimum of two (2) and a maximum of five (5) participants per grade level. For grades 7 -11, Annex and extension schools are considered one school.
 - 6.2 No cut-off score for the determination of qualifiers for individual category.
 - 6.3 Two sets of qualifiers will be announced. One for individual category and the other one for team category. Top thirty (30) for individual category and Top 2 per school for team category are the qualifiers for the Final Rounds.
 - 6.4 To determine the team category, Top 12 schools regardless of district for elementary level and Top 8 schools for secondary level shall be determined by adding the scores of the Top 2 qualifiers per school for team orals category.
 - 6.5 Announcement of final rounds qualifiers will be done two to three hours after the written examination.
 - 6.6 All participants from public and private schools in all levels will undergo the Division Elimination Round.
 - 6.7 Division Elimination Round is a written examination with the following details on the number of items and no. of points, to wit:

Grade Levels	Multiple Choice	Brief Constructed Response Format	Remarks	Time allotment
Grades 1 & 2	10 items	20 items	Total of 30 items	50 minutes
Grades 3 & 4	N/A	40 items	Total of 40 items (no multiple-choice type)	60 minutes
Grades 5 & 6	N/A	50 items	Total of 50 items (no multiple-choice type)	70 minutes
Grades 7 to 10	N/A	50 items		
Grade 11	N/A	50 items		

6.8 For Elimination Round, 1 point per item.

6.9 No Tie breaking in the elimination rounds. In the event of tie scores, all contestants obtaining that score qualify for the final round for individual category. On the other hand, for team category, the coach shall decide.

7. **Division Final Round.** The Final Rounds shall be done after the Opening Program, one at a time. Start with individual category and then followed by team orals category.

7.1. Individual Category. The final round for Individual category shall be in written test.

Grade Level	Brief Constructed Response Format			Remarks
	2-pt questions	3-pt questions	5-pt questions	Total no of points is 60.
Grades 1 to 11	15	5	3	

7.1.1. All contestants are required to submit their solution set to the proctors. In case of tie in scores, the solution set will be used by the proctors to break the tie.

7.2. Team/Oral Category. Team/Oral category will be done after the individual/written examination and will be facilitated in oral competition.

7.2.1. A total of 20 questions will be asked. However, clincher and Do or Die questions will be asked if necessary. 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 (2 pts each) (15 seconds)		Average Questions (3 points each) (30 seconds)		Difficult Questions (5 points each) (60 seconds)		Clincher Round	Do or Die	Total No. of Points
	No. of Items	No. of Points	No. of Items	No. of Points	No. of Items	No. of Points	No of items	No of items	
1 to 11	10	20	5	15	5	25	3	3 items	60

Note: Total number of points is 60. Questions in the clincher round worth 2, 3, and 5 points respectively.

- 7.2.2 Qualifiers are given 15 seconds to answer easy questions, 30 seconds for average questions, and 60 seconds for difficult questions. Timer starts when the quiz master says, "Go!". Moreover, "no writing on air or in the paper during the 15-second questions.
- 7.2.3 Each answer will be written on the official answer slips provided. As soon as the quizmaster says "STOP", everybody **MUST** stop writing.
- 7.2.4 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.
- 7.2.5 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.
- 7.2.6 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.
- 7.2.7 The contestants/team will be ranked according to their total score obtained in oral competition
- 7.2.8 To determine the winners, **Top 3 to Top 5** highest scorers are announced before the event ends.
- 7.2.9 In case of tie among any of the contestants vying for the first the 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.
- 7.2.10 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.

Complaints or Clarifications

8. Only the official contestants may raise a complaint or clarification.

9. 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.

Awards for Participating Schools

10. All participating schools shall be awarded with Certificate of Participation.
11. Top five (5) winners for both individual category and top five (5) teams for Team category will be recognized.
12. Medals and certificates shall be received by the 1st, 2nd, and 3rd placers and certificates for 4th and 5th placers

2024 DIVISION MATHEMATICS FAIR
Event 2: DAMATH
Event Head: Mr. Romeo J. Antepuesto - Teacher III, Digos City NHS

*For the purpose of integrating mathematics, the general rules for the Filipino check-board game **dama** will be applied with minor modifications.

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. This is open also to interested private schools.
2. Only one (1) official participant per school per grade level for Elementary level of Grades 3 and 4, Grades 5 and 6, one (1) official participant per grade level per school for Secondary level, one (1) official participant for Senior High School, and one (1) official participant per private school with the following categories:

Grade Level	Topic	Number of Participants
Grades 3 and 4	Whole Numbers	1 per school per grade level
Grades 5 and 6	Fractions	1 per school per grade level
Grade 7	Integers	1 per grade level per school
Grade 8	Rational Numbers	1 per grade level per school
Grade 9	Radicals	1 per grade level per school
Grade 10	Polynomials	1 per grade level per school
Grade 11	Polynomials	1 per school

3. Participants are required to register in the pre-registration link on or before February 11, 2024.
4. Pre-registration will be opened from January 26, 2024 at 8:00 AM to February 11, 2024 at 11:59 PM through the google sheet with the link <http://tinyurl.com/Prereg2024DivisionMathFair>.
5. Maximum of two (2) official participants per district for elementary level, two (2) official participants per school for secondary level, and one (1) official participant per private school with the following categories:
Grade 3 or 4 - Whole Numbers
Grade 5 or 6 - Fractions
Grade 7- Integers
Grade 8- Rational Numbers
Grade 9- Radicals
Grade 10- Polynomials
Grade 11-12 – Polynomials
6. Set the starting positions of the chips.
7. After the starting positions of the chips have been set, the first player is determined by tossing a coin.
8. A chip is allowed to move diagonally forward only to an adjoining vacant square.
9. A chip has to take the opponent's chip diagonally forward or backward, thus 'pass' is not allowed. Mathematical operations (+, -, x, ÷) will be used depending on the vacant square's operation symbol where the 'taker' chip lands by jumping over the 'taken' chip (the latter chip has to be removed from the board after performing the indicated mathematical operation and recording same in the score sheet).
10. Each player is allowed to use calculator including those smart phone calculator apps such as the

Fraction Calculator and the likes.

11. Each player is given 10 minutes to play the game using “chess clock timer” (chess timer app is allowed).
12. Each player is allowed one minute to move, record the move and write the score in the score sheet.
13. For every two or three chips taken, additional 30 seconds will be given.
14. If the remaining time is less than one minute, “Obligado kaon” shall be applied in the game.
15. A warning is given to a player by the arbiter if no move is made in one minute, and consequently, is forced to move a chip.
16. After making a move, a player shall record his/her move in the score sheet before tapping the timer.
17. Only one score sheet will be used by the players in a game. The player is obliged to pass the score sheet after tapping the timer.
18. In taking more than one chip, the ‘taker’ chip is always the addend, minuend, multiplicand, or dividend as the case may be.
19. In taking a chip or more than one chip, the dama rules on ‘dama’, ‘mayor dalawa or tatlo’, ‘mayor tatlo over dalawa’, mayor dama and mayor dalawa or tatlo over dama prevail.
20. A chip is declared ‘dama’ upon reaching terminally on the following designated squares.
For red chips: (0,7) (2,7) (4,7) (6,7)
For blue chips: (1,0) (3,0) (5,0) (7,0)
21. “Dama” chip should be encircled in the score sheet to identify the “dama:.
22. A ‘dama’ chip is allowed to take a chip or more than one chip, or move to any unoccupied square along its diagonal path. Moreover, a dama’s score is doubled in taking a chip or chips and quadrupled if it takes the opponent’s dama chip. Similarly, an ordinary chip’s score is doubled if it takes a dama chip.
23. A ‘move’ {e.g. 2 (6,3) is good only at the most for one (1) minute including its corresponding entries in the score sheet; while the game’s duration is at maximum of twenty (20) minutes or at most 10 minutes by either player.
24. The arbiter assigned has the power to disqualify a player after 3 warnings due to repeated violations of the game rules.
25. The game ends when any of the following situation occur:
 - If no show of one player is declared after ten minutes
 - Repetitive moves of any or both players
 - A player resigns
 - A player’s chip is cornered
 - A player has no more chip to move
 - The 10-minute game duration ended of either player
26. The remaining chips have to be added to the respective player’s total scores.
27. The player with the greater total in DAMATHS is declared winner for which he/she is entitled to one (1) point in the tally sheets of contestants.
28. Only one score sheet is allowed to be accomplished alternately by the two players whereby incorrect

entries in the score sheet, a player has to immediately call the attention of the competition facilitator by raising one's hand, that is, after stopping the time. As determined by the said facilitator, the appropriate corrections will be done by the erring player in as much as the facilitator's decision is final and irrevocable.

29. In the event of a tie, the judge/arbitrator will decide who wins by flipping a coin or by breaking the tie.

30. The **Top 3** leading scorers in the score tally shall be declared as **First Placer**, **Second Placer**, and **Third Placer** respectively.

GRADE 11 & 12 – POLYNOMIALS DAMATH

Same game rules in the lower grade level DAMATH shall be applied. Other specific details of the game are being stressed out below for further guidance.

1. Set the starting position of the chips as follows:

“blue chip” player, “red chip” player

0 (1,2) (6,5)	1 0 1 0 1 (3,2) (4,5)
0 1 0 1 0 (5,2) (2,5)	1 0 1 0 1 (7,2) (0,5)
1 (0,1) (7,6)	0 (2,1) (5,6)
0 1 0 1 1 (4,1) (3,6)	1 0 1 0 0 (6,1) (1,6)
0 1 0 1 0 (1,0) (6,7)	1 (3,0) (4,7)
0 (5,0) (2,7)	1 (7,0) (0,7)

2. Toss a coin to determine which player will have the first “move”
3. Moving a chip means sliding it diagonally in the forward direction only except when taking an opponent's chip or if a “dama” chip takes an opponent's chip.
4. The two players alternately take turns in moving a chip (Note: Pass is not allowed).
5. A player who touches a chip (touch move) is required to move unless it is not possible to do so.
6. After each ‘move’ a player has to record his/her ‘move’ in a score sheet (only one score sheet will be used by the two players).
7. In taking an opponent's chip, the ‘taker’ chip jumps over the ‘taken’ chip and uses any of the four operation symbols of +, -, x and ÷ where the taker chips lands.
8. A chip is declared ‘dama’ if it stops in any of the following squares of the opposing player: (1,0) (3,0) (5,0) (7,0). Similarly, the opposing player's chip is declared ‘dama’ if it stops in any of the following squares (0,7) (2,7) (4,7) (6,7).
9. A dama chip can slide diagonally forward or backward in any unoccupied square as long as no opponent's chip blocks its path. It could take a chip or chips whereby its corresponding sum, difference, product or quotient is doubled. Similarly, if an ordinary chip takes an opponent's ‘dama’ chip takes an opponent's dama chip, then its score is quadrupled.
10. A ‘taker’ chip can take one chip or more than one chips with the required option to take the greater number of chips.
11. Between a dama chip taking an opponent's chip and a chip taking an opponent's chip the former prevails.

12. A taker or taken dama chip should be identified by encircling it in the score sheet. The game ends if:
 - 12.1 the 10-minute game period lapsed of either player; the moves are repetitive;
 - 12.2 a player has no more chip to move;
 - 12.3 an opponent's chip is cornered
13. The remaining chip or chips of the player are to be added to their respective scores. If the remaining chip is a 'dama', then its score is also doubled.
14. The player with the greater accumulated total score wins the game. CHIPS and Position in the DAMATH Board.

Damath Board for Grade 10 Only

	7	6	5	4	3	2	1	0	
7	×		÷		-		+		0
6		÷		×		+		-	1
5	-		+		×		÷		2
4		+		-		÷		×	3
3	×		÷		-		+		4
2		÷		×		+		-	5
1	-		+		×		÷		6
0		+		-		÷		×	7
	0	1	2	3	4	5	6	7	

DAMATH Board for Grades 3 to 9

	0	1	2	3	4	5	6	7	
7	X		÷		-		+		7
6		÷		X		+		-	6
5	-		+		X		÷		5
4		+		-		÷		X	4
3	X		÷		-		+		3
2		÷		X		+		-	2
1	-		+		X		÷		1
0		+		-		÷		X	0
	0	1	2	3	4	5	6	7	

Grade III and IV - WHOLE DAMATH

	0	1	2	3	4	5	6	7	
7	2		5		8		11		7
6		7		10		3		0	6
5	4		1		9		6		5
4		+		-		÷		X	4
3	X		÷		-		+		3
2		9		6		1		4	2
1	0		3		10		7		1
0		11		8		5		2	0
	0	1	2	3	4	5	6	7	

Grade V and VI - FRACTION DAMATH

	0	1	2	3	4	5	6	7	
7	$\frac{3}{10}$		$\frac{6}{10}$		$\frac{9}{10}$		$\frac{12}{10}$		7
6		$\frac{8}{10}$		$\frac{11}{10}$		$\frac{4}{10}$		$\frac{1}{10}$	6
5	$\frac{5}{10}$		$\frac{2}{10}$		$\frac{7}{10}$		$\frac{10}{10}$		5
4		+		-		÷		X	4
3	X		÷		-		+		3
2		$\frac{10}{10}$		$\frac{7}{10}$		$\frac{2}{10}$		$\frac{5}{10}$	2
1	$\frac{1}{10}$		$\frac{4}{10}$		$\frac{11}{10}$		$\frac{8}{10}$		1
0		$\frac{12}{10}$		$\frac{9}{10}$		$\frac{6}{10}$		$\frac{3}{10}$	0
	0	1	2	3	4	5	6	7	

SECONDARY LEVEL

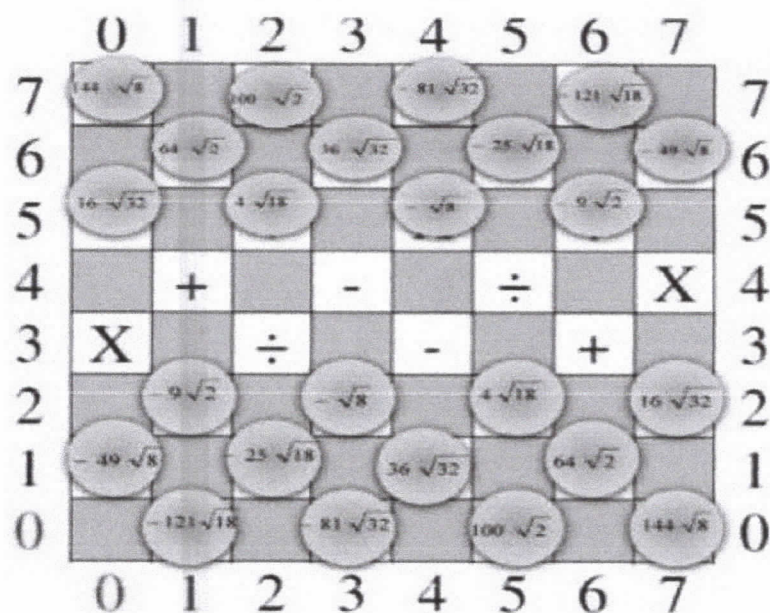
Grade 7 - INTEGER DAMATH

	0	1	2	3	4	5	6	7	
7	7		5		8		11		7
6		2		01		9		0	6
5	1		1		9		6		5
4		+		-		÷		X	4
3	X		÷		-		+		3
2		-9		6		-1		4	2
1	0		-3		10		-7		1
0		-11		8		-5		2	0
	0	1	2	3	4	5	6	7	

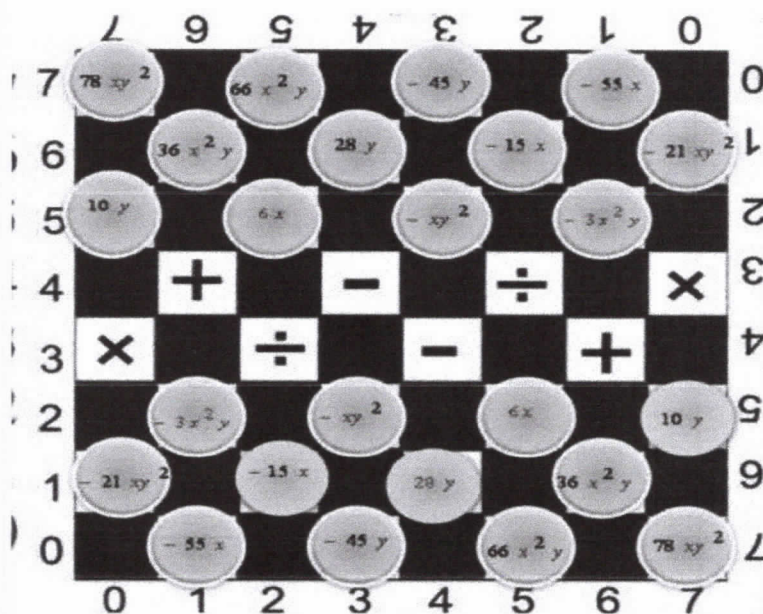
GRADE 8 - RATIONAL DAMATH

	0	1	2	3	4	5	6	7	
7	$\frac{2}{10}$		$\frac{5}{10}$		$\frac{8}{10}$		$\frac{11}{10}$		7
6		$\frac{7}{10}$		$\frac{10}{10}$		$\frac{3}{10}$		0	6
5	$\frac{4}{10}$		$\frac{1}{10}$		$\frac{6}{10}$		$\frac{9}{10}$		5
4		+		-		÷		X	4
3	X		÷		-		+		3
2		$-\frac{9}{10}$		$\frac{6}{10}$		$-\frac{1}{10}$		$\frac{4}{10}$	2
1	0		$-\frac{3}{10}$		$\frac{10}{10}$		$-\frac{7}{10}$		1
0		$-\frac{11}{10}$		$\frac{8}{10}$		$-\frac{5}{10}$		$\frac{2}{10}$	0
	0	1	2	3	4	5	6	7	

GRADE 9 – RADICAL DAMATH



GRADE 10 – POLYNOMIAL DAMATH



Official Score Sheet:

Move/Operation	Score	Running Score
11 (3,4)		
11+4	15	15
10X2	20	35
10 -5○	5X2=10	45

2024 DIVISION MATHEMATICS FAIR

Event 3: Rubik's Cube

Event Head: Mr. R-Jhon C. Alag - Master Teacher II, Digos City NHS

1. This event shall be participated by pre-registered learners from Grades 3-12 of Digos City Division both Private and Public schools. Link for pre-registration will be provided and disseminated to district and school Math Coordinators.
2. The event will be contested by Grade Level (Grades 3-12) of both private and public.
3. Only 1 contestant per school in every grade level for elementary (Grades 3 to 6) , one (1) contestant per school in every grade level for secondary (JHS/SHS) and one (1) contestant per school in every grade level for private schools.
4. Participants are required to register in the pre-registration link on or before February 11, 2024.
5. Pre-registration will be opened from January 26, 2024 at 8:00 AM to February 11, 2024 at 11:59 PM through the google sheet with the link <http://tinyurl.com/Prereg2024DivisionMathFair>.
6. There shall be three rounds in this event.

6.1 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.

6.2 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 patterns. 5 fastest players advance to the 3rd and Final round.

6.3 FINAL ROUND

BLOCKOUT

Each player will solve completely each cube from left to right (3 cubes)

5 players will rank accordingly to fastest time completed.

7. The following mechanics shall be followed:

7.1 Players should bring 3 cubes

7.2 Players are given 10 seconds to inspect before solving the cube. (Time keeper gives the countdown)

7.3 After inspection, player will display his timer which has 0.00 and may start when he/she is ready.

7.3 Player stops his/her timer when 3 cubes are solved and display the time consumed. (Time keeper will announce the time consumed to the Recorder.)

7.4 Judge will inspect the 3 cubes if there are penalties.

7.5 Penalties and disqualifications applied in the following instances;

Round 1:

- a. Not solved if colors were not followed. Automatic disqualification.

Round 2:

- a. Wrong color of the given Pattern. Disqualification.
- b. Wrong Pattern. Disqualification.

Round 3:

- a. Solved with 2 Seconds Penalty
1 turn more than 45° to align
- b. Not Solved. Disqualification
2 turns more than 45° to align
- c. Solved No Penalty
Less than a 45° turn to align

7.6 Players are not allowed to use magnetic cubes.

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

8. **Top 3** contestants per grade level shall be declared winners.

2024 DIVISION MATHEMATICS FAIR 2024

Event 4: Tower of Hanoi

Event Head: Mr. Arnel S. Yañez, Teacher III, Digos City NHS

Game Mechanics

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. This is open also to interested private schools.
2. One (1) official participant per school for elementary level starting from Grades 3 to 6, one (1) official participant per school for secondary level of Grades 7 and 8, Grades 9 and 10, one (1) official participant per school for Senior High School (Grades 11 and 12), and one (1) official participant per private school with the following categories:

Grade Level	Number of Participants
Grade 3	1 per school (1 Round - One hand either left or right)
Grade 4	1 per school (1 Round - one hand either left or right)
Grade 5	1 per school (1 Round - Both Hands)
Grade 6	1 per school (1 Round - Both Hands)
Grades 7 and 8	1 per school (2 Rounds) Round 1 - Both Hands Round 2 - One Hand (either right or left)
Grades 9 and 10	1 per school (2 Rounds) Round 1 - Both Hands Round 2 - One Hand (either right or left)
Grades 11 and 12	1 per school (3 Rounds) Round 1 - Both Hands Round 2 - Right Hand Round 3 - Left Hand
Private School	Grades 3 to 6 (1 participant per school) Grades 7 and 8 (1 participant per school) Grades 9 and 10 (1 participant per school) Grades 11 and 12 (1 participant per school)

3. Participants are required to register in the pre-registration link on or before February 11, 2024.
4. Pre-registration will be opened from January 26, 2024 at 8:00 AM to February 11, 2024 at 11:59 PM through the google sheet with the link <http://tinyurl.com/Prereg2024DivisionMathFair>.
5. 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. The 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.
6. This competition is in the FREEHAND MODE (One hand / Two hand and in any position of the base may be applied)
7. Once the disc dropped, the competitor may continue solving the puzzle but he/she is not allowed to restart all the disks.
8. Once the competitor placed the disk at the wrong peg (and is legal) he/she is allowed to continue to play unless conceded.
9. All participants are allowed to solved the puzzle in at most ten (10) minutes, otherwise, it is tantamount/commensurate to automatic disqualification
10. The time will stop once the competitor drops the last disk on the last peg.
11. 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
12. In case that the student is disqualified in any round, it is commensurate to the maximum number of time limit of 5 minutes. All time consumed will be recorded and the average will be computed.
13. The top 3 students who made the fastest time average will be declared as 1st, 2nd and 3rd placer respectively.
14. All results will be tabulated and encoded by the official tabulator and will be finalized by the game facilitator.

2024 DIVISION MATHEMATICS FAIR
Event 5: Math and Computational Science
Likha - A Full Proposal Research Competition (Mathematics and Computational Science)

Event Head: Mrs. Wellisa P. Milca – Master Teacher II, 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. Each team's leader in a team category and the participant in the individual category are required to register in the pre-registration link on or before February 11, 2024
4. Pre-registration will be opened from January 26, 2024 at 8:00 AM to February 11, 2024 at 11:59 PM through the google sheet with the link <http://tinyurl.com/Prereg2024DivisionMathFair>.
5. The top two winners in each category will be declared first and second placers, respectively.
6. The first-place winners in the Individual and Team categories at the Division level shall represent the division at the regional level as approved by the Screening Committee.
7. This proposal research competition focuses on Mathematics and Computational Sciences.
8. 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 for submission at the division level on .
9. Entries must be submitted via email on or before **February 12, 2024** at 11:59 PM to wellisa.milca@deped.gov.ph with the subject format: **LIKHA_MATH_TEAM/INDIV_SCHOOL** (ex. **LIKHA_MATH_TEAM_DiCNHS**).
10. The email should include a completely filled-out Project Proposal Template and other relevant files in PDF format. Incomplete submission of the required documents may disqualify the entries.
11. The online judging will be on February 13 - 15, 2024.
12. 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.
13. 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%

14. 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%

15. 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 has 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) 6.1 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 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?	
Total	
Signature and printed name of the evaluator:	

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 (20) 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 (20) 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	

2024 DIVISION MATHEMATICS FAIR 2024

Event 6: Math Debate

Event Head: Mrs. Kremia Katrina C. Thiam – Teacher III, Digos City NHS

FORMAT: ASIAN PARLIAMENTARY DEBATE

OBJECTIVES:

The Math Debate aims to expose junior high and senior high school students to a competition that would:

1. develop their critical thinking;
2. harness their argumentative skills;
3. build their confidence in articulating their thoughts; and
4. foster teamwork among them.

GENERAL GUIDELINES

1. The Math Debate competition is open to all bona fide junior high (Key Stage 3) and senior high (Key Stage 4) students enrolled in any public school and private school in Digos City.
2. Each team's leader is required to register in the pre-registration link on or before February 11, 2024
3. Pre-registration will be opened from January 26, 2024 at 8:00 AM to February 11, 2024 at 11:59 PM through the google sheet with the link <http://tinyurl.com/Prereg2024DivisionMathFair>.
4. Only the **first 6 teams** to register in each Key Stage will be accommodated. Additional slots may be opened depending on the demand and the number of participants.
5. Change of member/s shall be allowed provided that the steering committee will be informed a week before the competition proper.
6. The members are required to be in corporate/business attire.
7. Topics to be debated will be provided a week before the competition to the registered teams.
8. The members must be in the event venue 30 minutes before the start of the competition.
9. In any case 1 or 2 members of the team are unable to join the contest proper due to valid reasons, only the remaining member/s shall be allowed to represent the team.
10. Each team is allowed to bring writing materials (e.g. pen, blank sheets of paper).
11. Plagiarism or any form of cheating are grounds for automatic disqualification of the team.
12. All queries, clarifications, complaints, and protests shall be addressed to the steering committee. The decision of the committee is final and irrevocable.

CONTEST PROPER MECHANICS

1. The tournament scheme for the elimination phase of the competition will be Single Elimination.
2. The debate will follow the Asian Parliamentary Debate (APD) format using formal English as the medium of speech.
3. Each debate has 2 opposing teams namely: the Affirmative side and the Negative side, and each side is comprised of 3 members. The table below summarizes the role of each member in both sides.

Affirmative Side	Negative Side
<u>First Affirmative</u> -opens the debate, defines the motion, presents position and case and makes 1 or 2 arguments	<u>First Negative</u> -responds directly to the case of the 1 st affirmative by giving a direct clash or a rebuttal and makes 1 or 2 arguments
<u>Second Affirmative</u> -refutes at first instance the case of the 1 st negative, re-establishes/defends the claims of the affirmative side and advances arguments	<u>Second Negative</u> -refutes the case of the 2 nd affirmative, re-establishes/defends the case of the negative side and advances arguments
<u>Third Affirmative</u> -makes an issue-based rebuttal of the negative side's case and briefly summarizes the case of the affirmative side	<u>Third Negative</u> - makes an issue-based rebuttal of the affirmative sides' case and briefly summarizes the case of the negative side

4. During the speeches, the members are strictly prohibited from mentioning their respective schools or class sections.
5. The motions of the debate will be announced by the Chairperson. On the release of the motions, both teams will rank them based on their preferences. The selection of the motion must be made in the presence of the adjudicators of that round.
6. The steering committee will decide which team is the Affirmative side or the Negative side.

7. After selecting the motion to be debated, competing teams have thirty (30) minutes to prepare their constructive speeches.
8. During the preparation period, the teams are allowed to bring printed and prepared materials as well as pens and blank sheets of paper. Printed material includes books, journals, newspapers, and other similar materials. Using any electronic media (e.g. cellphones, laptops, pocket wi-fi) is strictly prohibited.
9. The members of the teams have the option to shift roles each round/phase.
10. Each member will be allocated seven (7) minutes to deliver their constructive speeches in an alternating order. After the 6th speech, each side gives a reply speech of four (4) minutes. The members will be speaking in the following order:

1st speech: First Affirmative

2nd speech: First Negative

3rd speech: Second Affirmative

4th speech: Second Negative

5th speech: Third Affirmative

6th speech: Third Negative

7th speech: Negative Side Reply Speech

8th speech: Affirmative Side Reply Speech

11. The affirmative side reply speech and the negative side reply speech can be done by either the 1st or the 2nd speaker of each team. The speech aims to briefly summarize the debate, show the team's position and case, and give a biased judgment as to why should the people support the team's claims. No new arguments should be made.
12. The timing of each speech starts when the member begins speaking.
13. Time signals will be given in the following manner:

A. Elimination Round

Constructive speech (7 minutes)

- End of 1st minute- single knock of the gavel
- End of 6th minute- single knock of the gavel
- End of 7th minute- double knock of the gavel

Reply speech (4 minutes)

- End of 3rd minute- single knock of the gavel
- End of 4th minute- double knock of the gavel

B. Final Round

Constructive speech (9 minutes)

- End of 1st minute- single knock of the gavel
- End of 8th minute- single knock of the gavel
- End of 9th minute- double knock of the gavel

Reply speech (5 minutes)

- End of 4th minute- single knock of the gavel
- End of 5th minute- double knock of the gavel

A grace period of 15 seconds is allocated after the double knocks, during which the speakers should conclude their speeches.

14. Point of Information (POI) may be raised by the opposing team only after the 1st minute up to the 6th minute of the constructive speeches in the Elimination Round or up to the 8th minute of the constructive speeches in the Final Round. All members are expected to answer or ask at least two (2) Points of Information per speech. During reply speeches, no POI will be raised.

POI: a brief interjection that a speaker from the opposing side can make during a debate, usually to challenge, clarify, or rebut an argument. It should not exceed 15 seconds in length. POI adds interactivity to a debate.

15. To raise a POI, a member should stand, raise an arm and say “point of information”. The challenged member may choose to accept or decline the raised POI.
16. Since APD is adapted, the competition will be assessed by an Adjudicator Panel composed of an odd number according to the following criteria: Matter (40%), Manner (40%) and Method (20%). The decisions of the adjudicators are final and irrevocable.

Proposed Criteria:

Manner (40%)

- Speaks clearly and confidently (15%)
- Uses appropriate language and terminology (15%)
- Engages the audience through effective delivery and body language (10%)

Matter (40%)

- Content Knowledge: Demonstrates a deep understanding of the mathematical concept being debated, presents multiple valid solutions or approaches, incorporates historical context or background information and provides accurate and relevant information (20%)
- Analysis and Reasoning: Presents clear and logical arguments, anticipates counterarguments and addresses them effectively, engages in critical thinking and evaluates different perspectives and provides evidence and examples to support arguments (20%)

Method (20%)

- Works well as a team and demonstrates effective collaboration (5%)

- Engages with the arguments presented by the opposing team (5%)
- Speeches have clear structure (*introduction, middle and conclusion*) (5%)
- Cohesion of the debate between all members (5%)

IMPORTANT NOTE:

A) Constructive speech

- A speaker may not under any circumstance be awarded less than 24/40 in Matter and Manner, and less than 12/20 in Method.
- A speaker may not under any circumstance be awarded more than 32/40 in Matter and Manner, and more than 16/20 in Method.

Criteria Range

Matter (24-32)/40

Manner (24-32)/40

Method (12-16)/20

Total (60-80)/100

B) Reply speech (half the scores of the constructive speech)

- A speaker may not under any circumstance be awarded less than 12/20 in Matter and Manner, and less than 6/10 in Method.
- A speaker may not under any circumstance be awarded more than 16/20 in Manner and more than 8/10 in Method.

Criteria Range

Matter (12-16)/20

Manner (12-16)/20

Method (6-8)/10

Total (32-40)/50

Sources:

- ❖ *UP Lambak-UP Diliman (Region 2), 2022*
- ❖ *UP Oroquieta- UP Los Baños, 2019*
- ❖ *Indore Institute of Law (Law College in India): The International Law Fest, "Lex Bonanza 2017"*
- ❖ *Rajiv Gandhi National University of Law (RGNUL) parliamentary debate: 6th Annual Agahi 2016 in Punjab, India*
- ❖ *Jan Vincent Gals, PhD: Director, Global Business Education Accreditation Center*
- ❖ *Associate Professor, Chung-Ang University in Seoul, S. Korea, 2023*
- ❖ *Center for Indonesian Medical Students' Activities (CIMSAs) Asian Parliamentary Debate*

2024 DIVISION MATHEMATICS FAIR
Event 7: Digital SIM in Math – Teacher Category
Event Head: Mrs. Myrell P. Dumigsi – Master Teacher I, Digos City NHS

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.

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 Digitized 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 Digos City Division.
2. 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.

KEY STAGE DISTRICT	Key Stage 1 Grades 1-3	Key Stage 2 Grades 4-6	Key Stage 3 Grades 7-10	Key Stage 4 Grades 11-12
Digos Occidental	2	2		
Digos Oriental	2	2		
Digos South	2	2		
Mt. Apo District	2	2		
JHS			3 (per school)	
SHS				3 (per school)

3. Teacher-contestants for digitized SIMs must pre-register on or before February 11, 2024.
4. Pre-registration will be opened from January 26, 2024 at 8:00 AM to February 11, 2024 at 11:59 PM through the google sheet with the link <http://tinyurl.com/Prereg2024DivisionMathFair>.
5. There are four categories for this event:

Key Stage 1 (Grades 1 to 3)	Key Stage 3 (Grades 7 to 10)
Key Stage 2 (Grades 4 to 6)	Key Stage 4 (Grades 11 to 12)
6. A soft copy of the Digital SIM will be submitted to the Division Math Fair - Digital SIM Committee on or before February 12, 2024 thru myrell.dumigsi@deped.gov.ph cc: jemboy.cabrella@deped.gov.ph. The submitted SIMs will be pre-judged by the board of Judges on February 13-15, 2024. Late SIMs will be included in the contest proper.
7. The SIM shall be based on the least learned skills/competencies of students in Mathematics in Quarter 1 or Quarter 2. A certification signed by the school head / department head / grade level chairman attesting to this shall be included as attachment in the action research.
8. Each contestant is required to submit a ring-bound printed copy of his/her action research on the effectiveness of the SIM. This will be submitted a day before the actual contest. Any contestant who fails to do so will either be disqualified from the contest or will have points deducted from his/her total score. This will be agreed upon by the Board of Judges before the start of the contest.
9. Each contestant is required to print a 3ft x 5ft tarpaulin poster showing the 5 main parts of the SIM. The contestant will be responsible. This will be submitted a day before the contest.
10. Each contestant will be given at most 10 minutes oral presentation of his/her SIM. Date and venue will be announced later.
11. Judges will be given a maximum of 10 minutes to interview each contestant after his/her presentation.

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

13. Two special awards shall also be given.

a. Best Digital SIM Poster

b. Best Oral Presenter.

The contestant with the highest score will be declared as winner for each special award.

14. In case of tie, the chairman of the board of judges shall break the tie.

15. The decision of the board of judges is final and irrevocable.

C. SCORING SYSTEM

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

CRITERIA	POINTS	Suggested distribution	points
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	10	6 4	
Usability/Functionality - Language - Title Card - Guide Card - Activity Card - Assessment Card - Enrichment Card - Reference Card - Answer Card - Packaging	35	2 2 4 10 3 3 2 2 7	
Validity - Validated before classroom use - Developed material based on least mastered skills LC - Material used improved mastery level	20	5 5 10	
Contextualization and Localization Activities and assessments use local conditions applicable to current situations.	8		
Digitized - Adapts a system to be operated with the use of computers, smart phones, tablets and the internet. - Can easily be accessed and manipulated by learners.	15	8 7	
TOTAL	100		

D.) BEST DIGITAL SIM POSTER

Criteria	Description	Points
1. Lay-out	Cards are arranged systematically making it easy for the viewers to understand the flow of the material. There is symmetry among all aspects in the poster (i.e. font, font size, card size, etc.). The poster size is observed (5ft x 10ft).	35
2. Content	All the significant parts of the SIM are shown. Viewers can easily get the gist of the material by observing the contents of the poster.	30
3. Creativity	The poster is laid out in an imaginative way that essentially captures viewers' attention and stimulates their interest. Colors used are complementary and pleasing to the eye. Overall effect of the poster keeps spectators fascinated.	35
TOTAL SCORE		100

E) BEST ORAL PRESENTER

Criteria	Description	Points
Content	1. Accuracy and originality of facts and evidence presented (both orally and visually) 2. Adequacy and persuasiveness of presentation relative to topics covered 3. Use of appropriate range and quantity of sources, clear identification of sources	20
Reasoning	1. Clarity and memorability of key points 2. Separation of facts from opinions, consideration of alternative viewpoints	20
Organization	1. Orderliness, clear citation of sources 2. Purposefulness, clear identification of topics to be addressed 3. Smoothness of flow	20
Style	1. Voice control (pitch, loudness, speed, clear enunciation) 2. Engagement and vigor (holding audience's attention) Spontaneity (sparing use of notes, with no reading aloud)	20
Mechanics	3. Eye contact with entire audience, facial expressiveness 4. Fluency (complete sentences, with no filled pauses (uh, like, well, okay?)) 5. Hand and arm gestures, body movement, with no fidgeting	20
Total Score		100

DIVISION MATHEMATICS FAIR 2024
Event 8
Mathematical Investigation – Teacher Category
Event Head: Engr. Juner O. Gultiano – Senior High School in Digos City

1. What is a MI? Mathematical Investigation

A mathematical investigation is a process of exploring, analyzing, and solving problems in mathematics by using critical thinking, logical reasoning, and problem-solving skills. It involves understanding the concepts, identifying patterns, and applying various techniques to arrive at a solution. This guide will provide a step-by-step approach to writing a mathematical investigation, ensuring that it is well-structured, coherent, and accurate.

2. Parts of Mathematical Investigation

a. Title/Background/Rationale Provide a title/brief background on the topic and the motivation for your investigation.

b. Statement of the Problem: Clearly state the question you aim to answer through your investigation.

d. Conjectures: Describe the approach you will take to investigate the question, including any mathematical techniques or tools you will use.

e. Verifying Conjectures: Present the findings from your investigation, along with a detailed analysis of the results.

f. Justifications/Expectations: It may be possible to provide deductive justification, or a formal proof.

g. Summary: Summarize the findings and discuss their implications, limitations, and future directions.

h. Possible Extensions: Extensions may serve as further investigations for later use and may arise from students' investigation

3. There are only two categories for this event:

3.1 Key Stage 3 (Grades 7 to 10)

3.2 Key Stage 4 (Grades 11 to 12)

4. Participants are required to register in the pre-registration link on or before February 11, 2024.

5. Pre-registration will be opened from January 26, 2024 at 8:00 AM to February 11, 2024 at 11:59 PM through the google sheet with the link <http://tinyurl.com/Prereg2024DivisionMathFair>.

6. During the day of the competition, each category is required to have oral presentation.

- The presentation shall last for fifteen (15) minutes.
- The presentation shall be aided with PowerPoint Presentation

7. Judging will be based on the following criteria (refer to attached sheet below).

8. The contestants will be given 4 hours for the actual written preparation/finalization and a 5-minute oral presentation of their MI. Oral presentation of MI will be conducted as scheduled. The schedule will be provided later.

9. One copy of the MI will be submitted to the Online Division Mathematics Fair Committee on or before **February 12, 2024 at 11:59 PM thru juner.gultiano@deped.gov.ph, cc: jemboy.cabrella@deped.gov.ph. The submitted MIs will be pre-evaluated by the board of Judges. Late MIs will not be included in the contest.**

10. The decision of the board of judges is final and irrevocable.

11. **Top 3** teacher-contestants per key stage shall be declared winners.

FORMAT IN WRITING MATHEMATICAL INVESTIGATION

I. TITLE

II. INTRODUCTION

- “What got you interested?”
- Significance of the study
- Includes citation of existing related literature

III. STATEMENT OF THE PROBLEM

- Problem/s is/are clearly defined and generated from the situation.
- Challenging (Shows teachers/students discovery in Mathematical ideas and procedures)

IV. CONJECTURES

- Preceded by sample data from which the conjecture was generated.
- Stated in concise mathematical statements (in symbols if appropriate)
- Clearly generated from the data, that is, data are sufficient, appropriate, well organized, and logically presented.
- Patterns are noted.

V. VERIFYING CONJECTURES

- Conjectures are tested against existing cases and extreme cases.
- Conjectures are used to make predictions.
- Predictions are tested.
- The data may support the conjecture or provide a counterexample indicating the need to revise or reject the claim.

VI. JUSTIFICATION

- It may be possible to provide deductive justification, or a formal proof.
- Each proof/justification is complete.
- Mathematical ideas involved are accurate.
- Mathematical statements are logically presented, concise, and suited to the ability of the learners.

VII. SUMMARY

- Encourages a critical review of the investigation.
- Encourages reflection on the investigative process and may serve as a valuable illustration of this process for other students.
- Should be long enough to highlight the major ideas and phases of the investigation, yet short enough to be manageable in limited time.

VIII. POSSIBLE EXTENSIONS

- Extensions may serve as further investigations for later use and may arise from students' investigation.
- Are clearly stated and generated from the data.

TYPOGRAPHY

1. Paper Size
 - a. A4 (8.27" x11.69")
2. Font
 - a. Bookman old style, size12
 - b. For title page, use size12
 - c. For figure and table titles, use font 11.
3. Margins
 - a. 1.25" left margin and
 - b. 1" margins all around
4. Pagination and numbering
 - a. Page number must be at the bottom right.
 - b. 0.5" Indention at beginning of paragraphs
 - c. Text alignment: Justified (aligned at both left and right sides)
5. Enumerations and Listing
 - a. All items in the list should be I be grammatically parallel (i.e. all noun phrases, adjectives, and so forth)
 - b. If the list and items are very short and simple, include them in one grammatical sentence. Each item should be preceded by an Arabic numeral in parentheses. (i e. The Capstone Project has three characteristics:
 - (1) collaborative,
 - (2) innovative, and
 - (3) citizen centric.
 - c. If the items in the list are longer, arrange them in a vertical list. Introduce the list with a complete sentence followed by a colon. Begin each one with a bullet or an Arabic numeral followed by a period, without parentheses.
6. Tables and Figures
 - a. Use font size 11
 - b. for table and figure titles
 - c. Place table titles on top Place figure title below
 - d. A figure or table title should be composed of an Arabic numeral followed by a period and a caption. (i.e. Table 1. Pascal Triangle)
 - e. When you refer to a figure in the text, specify the figure number ("in Figure 3") rather than its location ("below").
 - f. A table or figure should immediately follow the paragraph that first mentions it.
7. Point of view
 - a. Use the third-person voice or point of view all throughout the paper. Refer to self as "the researcher" all through the paper. (i.e. there were also a lot of challenges that were faced by the researcher: The researcher saw the need to re-strategize...)
 - b. Be conscious of gender fair language. (i.e. Chairperson instead of Chairman; use the singular "they" instead of "the he or she" or "s/he" for example: A customer should enjoy their seamless transaction).
8. Tense
 - a. Observe appropriate tenses in each section of the paper. Tenses may shift in any given section, depending on the topic discussed.
 - b. Essentially, the final paper uses the past tense most of the time as it describes what has been done. There are instances, however, that either future, present or perfect tenses is used. (i.e. Review of Related Literature should use the present tense when studies done by other researchers are discussed).
 - c. Citation and Reference
 - d. Use APA for reference and in-text citation all throughout the paper.

Attached Sheet

Criteria for Mathematics Intervention Materials

CRITERIA	INDICATORS	POINTS
MI Manuscript (60 points)	Problem/s is/are clearly defined and generated from the situation, challenging.	10
	Conjectures are stated in concise mathematical statements (in symbols if appropriate) and clearly generated from the data, that is, data are sufficient, appropriate, well organized, logically presented and patterns are noted.	10
	Conjectures are tested against existing cases and extreme cases and are used to make predictions are tested.	10
	Each justification/explanation/proof is complete, mathematical ideas involved are accurate, mathematical statements are logically presented and concise, at least two ways of justifying/proving are presented and one of these suits the ability of the learner.	10
	Possible extension/s is/are clearly stated and generated from the data.	10
	Content organization is easy to follow, graphics and colors are appropriate and pleasing to the eye and comforted with the required physical specifications.	10
Presentation (40 points)	Speaker maintains good eye contact with the audience and is appropriately animated (e.g., gestures, moving around, etc.).	5
	Speaker uses a clear and audible voice.	5
	Delivery is clear, controlled, and smooth	5
	Good language skills and pronunciation are used.	5
	Presentation is well prepared, informative, effective, and not distracting.	5
	Length of presentation is within the assigned time limits.	5
	Information was well communicated.	10
TOTAL		100

SCORE SHEET

CRITERIA	1	2	3	4	5	6	7	8	9	10
MI Manuscript (60 points)										
Problem/s is/are clearly defined and generated from the situation, challenging. (10 points)										
Conjectures are stated in concise mathematical statements (in symbols if appropriate) and clearly generated from the data, that is, data are sufficient, appropriate, well organized, logically presented and patterns are noted. (10 points)										
Conjectures are tested against existing cases and extreme cases and are used to make predictions are tested. (10 points)										
Each justification/explanation/proof is complete, mathematical ideas involved are accurate, mathematical statements are logically presented and concise, at least two ways of justifying/proving are presented and one of these suits the ability of the learner.(10 points)										
Possible extension/s is/are clearly stated and generated from the data. (10 points)										
Content organization is easy to follow, graphics and colors are appropriate and pleasing to the eye and comforted with the required physical specifications. (10 points)										
SUBTOTAL										
Usability/Functionality (50 points)										
Speaker maintains good eye contact with the audience and is appropriately animated (e.g., gestures, moving around, etc.) (5 points)										
Speaker uses a clear and audible voice. (5 points)										
Delivery is clear, controlled, and smooth										
Good language skills and pronunciation are used. (5 points)										
Presentation is well prepared, informative, effective, and not distracting. (5 points)										
Length of presentation is within the assigned time limits. (10 points)										
SUBTOTAL										
TOTAL										

Name and Signature of
Judge No. _____