

Republic of the Philippines
DEPARTMENT OF EDUCATION
Cordillera Administrative Region
SCHOOLS DIVISION OFFICE OF BENGUET

Wangal, La Trinidad, Benguet
Telefax: (074) 422-6570; (074)422-7501



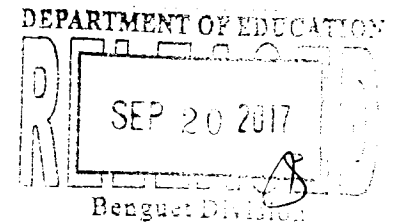
DIVISION MEMORANDUM

September 19, 2017

214.2017

**Addendum to Division Memorandum No. 200, s. 2017 on the 2017 Division
Math and Science Festival**

To: Public Schools District Supervisors
Elementary and Secondary School Heads
Teachers



1. This is to inform the coordinators to submit all documents including test questions in Mathematics and Science one question per category per grade level on September 27, 2017 and text the total number of participants to Karen Tegan (09297659395) for elementary and Nestor Dalay-on (09093018233) for secondary for belittling purposes and for more details for the Mat-Scie Festival please text the following:
Mila Caliging, Ed.D (EPS, Science): 09464081644
Wilfred Bagsao (EPS, Mathematics): 09996778811
2. Billeting of participants, Elementary at Lepanto Elementary School and secondary at Lepanto NHS MNHS. Registration starts on October 4, 2017 at 1:00 PM while all Chairpersons and officers of the Math and Science organization will have a meeting at Lepanto NHS on October 4, 2017 at 10:00 AM.
3. Attached is the guidelines on the spot Mathematics Investigation, bulleting area and activities.
4. Immediate dissemination of this memorandum is desired.


MARIE CAROLYN B. VERANO., CESO VI
Schools Division Superintendent

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SCHEDULE of ACTIVITIES

October 4, 2017

10:00 to 12:00 PM: Meeting of Officials

3:00 to 5:00 PM: Solidarity Meeting (all coaches)

1:00 TO 5:00 Pm: Display of Researches at the designated area

October 5, 2017

7:00-7:20 AM: Assembly for the parade

7:20-8:20 AM: Parade

8:30-11:30 AM: Opening Program

1:00 – 5:00: Contest Proper

a) All Elementary Activities (Lepanto ES)

Quizzes, Damath, Sci-dama, SIM, Science Investigatory Project (SIP)

b) All Secondary Activities (Lepanto NHS)

Quizzes, Damath, Sci-dama, SIM, Science Investigatory Project (SIP) and
Mathematical Investigation Project (MIP)

6:30 Onwards: Socialization Lepanto NHS and Elementary School
c/o Theatres Guild

October 6, 2017

8:00-8:20 Opening Program

8:20-12:00 Continuation of Activities

a) Quizzes

b) Board Games

c) Researches

d) SIM

10:00-12:00 awarding of finished activities

1:00 – 3:00 Closing Program



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List of Math & Science Officers

214.2017

A) Division of Benguet Association of Mathematics Teachers (DBAMT)

ELEMENTARY

SECONDARY

President:	Rayan D. Espinosa (Mankayan District)	Harold W. Moncion (FMNHS-Tinongdan)
Vice President:	Moresto Angyatao (Buguias District)	Heather G. Banagui (CRSHS)
Secretary:	Elmerine Panagan (La Trinidad)	Vilma Beliano (Beng NHS)
Ass. Secretary:	Cherry E. Palaez (Kapangan District)	Amy S. Agdasi (La Trinidad NHS)
Treasurer:	Joyce Carino (Itogon 1)	Sarah S. Dino (Mankayan NHS)
Ass. Treasurer	Naty Magciano (Kabayan)	Jufelia B. Paduyao (Benguet NHS)
Auditor:	Joemar P. Soriano (La Trinidad District)	ElJun L. Arisga (Tuba Central NHS)
Ass. Auditor	Samel S. Dales (Tublay District)	Andenson C. Gullingoy (Buguias NHS)
P.R.O.	Joanne P. Baucas (Kibungan District)	Kimberly Amoy (Cabiten NHS)
Business Managers:		
	Gina Salvador (Bokod District)	Dean Canol (GBDAIS-Main)
	Chester K. Ramirez (Itogon 2 District)	Jomelyn F. Sison (Madaymen NHS)
	Lilia Bastian	Jim D. Alberto (Ampucao NHS)

**B) Cordillera Administrative Region Association of Science Teachers Inc.
(Benguet Chapter)**

ELEMENTARY

SECONDARY

President:	Vincent Depaynos (Atok District)	Felix G. Ancheta (Ampusongan NHS)
Vice President:	Ronald Sacyat (Bakun District)	Crisanta P. Pantaleon (Benguet NHS)
Secretary:	Marlene O. Naboye (La Trinidad District)	Amor P. Parista (Kapangan CNHS)
Ass. Secretary	Michelle M. Ngalla (Mankayan District)	Rosenda C. Monang (Sablan District)
Treasurer:	Mercedes S. Catacutan (Kibungan District)	Lito Miguel (Kibungan NHS)
Auditor:	Judy C. Pablo (Sablan District)	Maria Fe Bumughawi (Mankayan NHS)
Ass. Auditor:		Michael Dave Dallapnas (Balili NHS)
P.R.O.	Francis K. Manis (Kapangan District)	Reynaldo Dicos (Atok NHS)
Business Managers:		
	Bibiana Danglay ()	Rose Kayee Pecay (Cordillera RSHS)
	Eloisa Lamyungan (Buguias District)	Simon L. Langbis (Buguias NHS)



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On the Spot Mathematical Investigation

(PROBLEM-BASED MATHEMATICAL INVESTIGATION GUIDELINE)

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I. NATURE OF THE COMPETITION

Mathematical Investigation is one of the events for secondary students (of private and public schools) during the Mathematics Festival which is annually celebrated by the Department of Education.

II. OBJECTIVES

The Mathematical Investigation event of the Mathematical Festival generally aims to enhance and enrich the mathematical abilities of students from participating schools of the Cordillera Administrative Region. Specifically, it also seeks to:

- A. Generate more appreciation and interest for mathematics among secondary students of private and public schools of the Cordillera Administrative Region;
- B. Developed student's insight about the nature, beauty, power, and utility of mathematics;
- C. Enable students to master skills and techniques allowing them to experience the satisfaction of applying mathematical processes on their own;
- D. Provide students with the opportunity to discover, use, and appreciate the power of calculators or computers as tools in mathematics;
- E. Provide opportunities for students to display their mathematical talents;
- F. Develop the values of hard work, patience, persistence, honesty, teamwork, sportsmanship, and to critically reflect on the significance of the results they obtain; and
- G. Demonstrate an understanding of the practical applications of mathematics.

III. COVERAGE

Topics in the Department of Education's Grade 7 to Grade 12 Mathematics Curriculum and any extension, enrichment, or supplement of these shall be the basis for the scope of the competition.

IV. CONTESTANTS

A. INDIVIDUAL MATHEMATICAL INVESTIGATION

Any bona fide student from Grade 11 to Grade 12 of a participating institution is allowed to compete in the individual mathematical investigation event.

B. TEAM MATHEMATICAL INVESTIGATION

Any bona fide pair of students from Grade 11 to Grade 12 of a participating institution is allowed to compete in the team mathematical investigation event.

NOTE: per district/school may sent 3 individual and team participants

V. COMPETITION MECHANICS

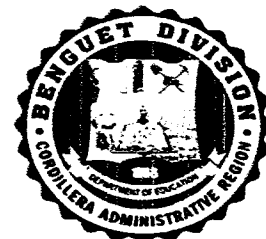
A. PROBLEM SELECTION

1. The competition committee shall pose three (3) problem areas for investigation. These problems shall be voted on by participating teams.
2. The voting shall be done through a choice-and-veto system; that is, each participating team can choose a problem to be the 'competition problem' and



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at the same time veto a problem they do NOT want to be the 'competition problem'.

3. Each vote for 'choice' will get +1 point and each vote for 'veto' will get -1 point.
4. Votes from all participating teams shall be tallied. The problem with the most number of points shall be the competition problem.
5. In case of a tie, the problem with the more (for a two-way tie) or with the most (for a three-way tie) 'choice' votes shall be selected as the competition.
6. If the tie cannot be resolved using method five (5), the competition problem shall be decided by the competition committee.

B. INVESTIGATION PROPER

1. Participants shall be moved to a closed contest venue where they will conduct the investigation for three (3) hours.
2. Any form of contact including but not limited to verbal communication, body gestures, hand signals, coded messages, and electronic messages between the investigator (for individual investigation contest) or members of a participating team (for team investigation contest) and a third party shall be a cause for disqualification.
3. The participants shall not be allowed to access the internet nor will they be allowed to use electronic devices such as smart phones, laptops, or tablets save for devices or applications authorized by the competition committee.

NOTE: Allowed devices include scientific calculators and any device deemed appropriate and relevant by the competition committee.

4. Competing investigators will be given a Mathematical Investigation template for them to write down their observations.

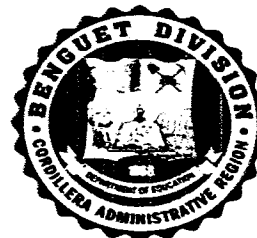
C. PRESENTATION PROPER

1. After the investigation proper, competing investigators shall present their Mathematical Investigation output to a panel of (at least three) judges from non-affiliated institutions of the competing participants.
2. Competing individuals or teams who have not yet presented their outputs are NOT allowed to view or watch the presentations of their fellow investigators. Furthermore, they shall submit their accomplished Mathematical Investigation forms before the first presenter will begin.
3. The order of presentation shall be determined through the fishbowl method. The draw lots shall be done in the following manner:
 - a. All participants will draw a paper from the fishbowl.
 - b. The lots to drawn are all blanks except with one that is marked with 'P'.
 - c. The contestant drawing the 'P' shall be the person to present.
 - d. The next presenter will be determined by another set of draw lots. This time one less blank lot will be included in the fishbowl. The participant who draws the 'P' shall present next.
 - e. Step (d) will be repeated until all the participants have presented.



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NOTE: Participant are therefore advised to remain in the competition area with no contact to any outside party if they have not presented yet.

4. The judges shall utilize a Mathematical Investigation Rubric to evaluate and rate the outputs of the competitors.
5. The contestants are given fifteen (15) to twenty (20) minutes to present the results of their investigation. Any extension shall be cause for demerits in the Mathematical Investigation rating.
6. An additional five (5) minutes shall be allotted for questions from the panel.

D. RANKING AND ADVANCEMENT:

1. The top individual mathematical investigation entry and top team investigation entry shall advance to the next competition level.
2. The decision of the board of judges is final and irrevocable.

VI. MATHEMATICAL INVESTIGATION TEMPLATE

DepED Logo	Letterhead	Division Logo
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TITLE:

INTRODUCTION:

OBJECTIVES:

DEFINITION(S) AND REPRESENTATIONS(S):