



Republic of the Philippines  
**Department of Education**  
REGION V - BICOL

SCHOOLS DIVISION OFFICE OF CATANDUANES



29 SEPT 2023

DIVISION MEMORANDUM  
OSDS-CID-DM- 401 S. 2023

**DIVISION SCIENCE AND TECHNOLOGY FAIR AND ROBOTICS OLYMPICS FOR SY 2023-2024**

To: Education Program Supervisors (Science and Math)  
Public Schools District Supervisors  
Secondary School Heads  
All Others concerned

1. Attached is the Regional Memorandum No. 466 s. 2023 dated September 21, 2023 re: Regional Science and Technology Fair and Robotics Olympics for SY 2023-2024.
2. Enclosed also, is the guidelines for the Robotics Olympics. The detailed guidelines, enclosures, and other references on research entries for the different categories can be accessed through this google link: <http://bit.ly/sciencefairguidelinesandreferences>
3. Interested participants in the school shall accomplish the attached confirmation slip and submit to the concerned EPS on or before **October 13, 2023**, at the CID office.
4. The deadline of submission of the final entry in soft copies for a specific category will be on **October 17, 2023, until 5:00 PM** through this email address: [ninogerard.ceneta@deped.gov.ph](mailto:ninogerard.ceneta@deped.gov.ph)
5. All entries will be judged anchored on the criteria given on **October 20, 2023** during the Division Science and Technology Fair and Robotics Olympics in a venue to be announced later. The decision of the board of judges is final and irrevocable. A division bulletin will be issued to declare the winners. First place winner/s will represent the division in the Regional Science and Technology Fair and Robotics Olympics for SY 2023-2024 on **November 24-25, 2023**.
6. All incidental expenses incurred relative to this activity may be charged to school's MOOE/local funds subject to the usual accounting and auditing rules and regulations.
7. For immediate dissemination, information, and guidance of all concerned.

  
**SOCORRO V. DELA ROSA**  
Schools Division Superintendent



San Roque, Virac, Catanduanes

052-8114063

[catanduanes@deped.gov.ph](mailto:catanduanes@deped.gov.ph)

[www.depedrovcatanduanes.com](http://www.depedrovcatanduanes.com) / [www.catanduanes.deped.gov.ph](http://www.catanduanes.deped.gov.ph)



Republic of the Philippines  
**Department of Education**  
REGION V - BICOL



**Office of the Regional Director**

September 21, 2023

REGIONAL MEMORANDUM  
No. 466 s. 2023

**REGIONAL SCIENCE AND TECHNOLOGY FAIR AND ROBOTICS OLYMPICS  
FOR SY 2023-2024**

To: Schools Division Superintendents  
All Others Concerned

1. In preparation for the coming National Science and Technology Fair for School Year 2023-2024, this Office through the Curriculum and Learning Management Division (CLMD) shall conduct the Regional Science and Technology Fair (RSTF) for School Year 2023-2024 this November 2023.
2. This year's science fair shall continue to cultivate and stimulate the research skills, innovation skills, and creativity skills of learners centered on the theme, *Rebuilding Resilient Communities: Embracing Science and Technology for a Sustainable Tomorrow*.
3. Anent to this, the following schedule of activities shall be observed:
  - Division Science and Technology Fair  
October, 2023
  - Submission of Division Entries for Regional Scientific Review Committee (SRC) Paper Evaluation  
October 25, 2023
  - Regional Scientific Review Committee (SRC) Paper Screening  
October 26 to November 10, 2023
  - Regional Science and Technology Fair and Robotics Olympics  
November 23-25, 2023
4. The first-place winners at the division level shall submit soft copies of the research papers and all other required documents (ISEF Forms) for the Regional Scientific Review Committee (SRC) paper evaluation. Research projects in the Robotics and Intelligent Machines category and Mathematics and Computational Sciences shall automatically join the Regional Fair provided that all required forms are properly accomplished.

Only the declared first-place winners in the division will submit documents for paper evaluation. These should be emailed to [rstfrov@gmail.com](mailto:rstfrov@gmail.com) on or before October 23, 2023, following the format:



Regional Center Site, Rawis, Legazpi City 4500

0969 516 9555  
[region5@deped.gov.ph](mailto:region5@deped.gov.ph)

*Q*



Folder Code	Contents of the Folder	Sample Content of the Folder for Forms
LS-I-Albay *Life Science-Individual-Albay	Manuscript:  LS-I-Division-School Name ex: LS-I-Albay-MORMS	
	Folder containing the needed forms:  LS-I-Division-Forms  <i>*Name of the folder where all the soft copies of the necessary forms are found</i>	LS-I-Division-Form 1 LS-I-Albay-Form 1  LS-I-Division-Form 2  LS-I-Division-Logbook
<ul style="list-style-type: none"> <li>LS-I-Division</li> <li>LS-T-Division</li> <li>PS-I-Division</li> <li>PS-T-Division</li> <li>RIM-I-Division</li> <li>RIM-T-Division</li> <li>MCS-I-Division</li> <li>MCS-T-Division</li> </ul>	<ul style="list-style-type: none"> <li>LS-I-Division-Forms</li> </ul>	<ul style="list-style-type: none"> <li>LS-I-Division-Datalogbook</li> <li>LS-I-Division-Form 1</li> </ul>

5. The participation of schools in RSTF shall be clustered into six major categories: Life Science, Physical Science, Robotics and Intelligent Machines, Mathematics and Computational Science, and National Science Innovation Expo. A special category - Robotics Olympics shall be included this year which will be participated by Robotics STE and STEM learners. Major categories are further classified into different subcategories to wit:

Life Science		Physical Science		Robotics and Intelligent Machines		Mathematics & Computational Science		Science Innovation Expo		Robotics Olympics	
I	T	I	T	I	T	I	T	I	T	JHS	SHS

6. The following documents are enclosed for the information and guidance of all concerned:

- Enclosure 1: Checkpoints for SRC Review
- Enclosure 2: List of Forms and Documents to be Submitted
- Enclosure 3: Templates of Forms
- Enclosure 4: School, Division, Regional and National Science and Technology Fair Guidebook
- Enclosure 5: Guidelines for Robotics Olympics
- Enclosure 6: DepEd Memo NSTF

7. No Registration Fee shall be collected. DSTF, RSTF, and all other travel expenses of participants shall be charged against local funds and/or other sources;

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whereas, the expenses in the conduct of the regional activity (materials, medals, plaque, cash awards, and honoraria of members of the SRC, Board of Judges (BOJ), and external or non-DepEd resource persons) shall be charged against the Regional Funds and BCD support Funds subject to the usual accounting and auditing rules and regulations.

8. Participants to this activity are entitled to Service Credits/Compensatory Overtime Credits since November 25, 2023 fall on a Saturday per DepEd Order no. 53, s. 2003, re: Updated Guidelines on Grant of Vacation Service Credits to Teachers and CSC and DBM Joint Circular no. 2, s. 2004, re: Non-Monetary Remuneration for Overtime Services Rendered.

9. For information and wide dissemination.



**GILBERT P. SADSAD**  
Regional Director

To be indicated in the Perpetual Index  
under the following subjects:

SCIENCE FAIR  
STEM FAIR  
RESEARCH  
RESEARCHERS  
RSTF  
DSTF  
SSTF

CLMD/cheD  
9/21/2023

## **Enclosure 5: Guidelines for Robotics Olympics**

### **A. Robot Mission Mechanics**

JHS Category: Line Follower Robot

#### **Objective:**

The goal of this contest is for the robot to complete the course of black lines on a white background and reach the finish line in the shortest period of time.

#### **Qualification:**

1. Open for JHS students, composing a maximum of 3 members and 1 coach.
2. The winner in the division competition shall join the regional competition. Only one (1) team shall represent the division.

#### **Robot Requirements:**

1. Only one Arduino robot per team is allowed.
2. Robots should be within 25 cm x 25cm x 25cm in diameter.
3. The robot shall be self-contained (no remote control).
4. The robot shall be either two-wheeled (2WD) or four-wheeled (4WD).
5. The robots must have an accessible on-and-off switch. The power supply for the vehicle should be contained on board and should not exceed 12 volts.
6. The robot should be battery-operated.
7. A robot should be designed using an Arduino microcontroller or microprocessor.
8. Sensors allowed are only line and color sensors. Maximum of three sensors.
9. Teams that do not follow the requirements and guidelines will be disqualified.

#### **Rules of the Competition**

1. The robot must deal with the lighting conditions as they appear. That is, room lighting and window drapes will be set as desired by the judges and will not be modified for individual contestants. Also, flash photography and IR focusing cameras will be allowed unless the judges deem such activities as interfering with the ability to hold the event in general.
2. The arena will be open 1 hour before the competition, and 5 minutes of practice shall be given to each team to practice and adjust the robot.
3. No robot adjustment shall be done during the start of the competition.
4. The time will be measured from the moment the robot starts and finishes.
5. Three chances will be given to each team, and the shortest time will be considered.
6. The team that has the shortest time to complete the map will be the winner.
7. In case the robot wanders off the arena surface, it shall be disqualified.
8. If the robot cannot finish the map, the points equivalent to the distance traveled by the robot will be obtained.
9. In case of a tie, a repeated race may be ordered by the organizers.
10. The decisions of all officials regarding these rules and the conduct of the event shall be final.

#### **Organization:**

1. The robot must be registered before the competition. The registration includes technical inspection of the robot and marking the robot with number sticker.
2. The technical inspection must be completed by the time specified by the organizer.
3. All questions and problems arising during the competition are solved by the referee.
4. No objections shall be declared against the facilitator's or judge's decision.

## **B. Robot Mission Mechanics**

### **SHS Category: Maze-Solving Mission**

#### **Objectives:**

In this competition, the mission of the autonomous mobile robot is to navigate the maze from the specified starting corner to the finish line in the shortest possible time, avoiding the obstacles along the way.

#### **Qualification:**

1. Open to SHS students, composed of a maximum of 3 members and 1 coach.
2. The winner in the division competition shall join the regional competition. Only one (1) team shall represent the division.

#### **Robot Requirements:**

1. Only one Arduino robot per team is allowed.
2. Robots should be within 22 cm x 22 cm x 22 cm in diameter.
3. The robot shall be self-contained (no remote control).
4. The robot shall be either two-wheeled (2WD) or four-wheeled (4WD).
5. The robots must have an accessible on-and-off switch. The power supply for the vehicle should be contained on board and should not exceed 12 volts.
6. The robot should be battery-operated.
7. A robot should be designed using an Arduino microcontroller or microprocessor.
8. There are no restrictions on sensor usage, as long as it is deemed helpful for the robot to complete the maze.
9. Teams that do not follow the requirements and guidelines will be disqualified.

#### **Rules for the Maze-Solving Mission:**

1. The maze is composed of 25 cm x 25 cm unit squares. The walls of the maze are 22 cm high and 0.5 cm thick (assume 5% tolerance)
2. The sides of the maze walls are white and black, the tops of the walls are red, and the floor is black (or white), finished with a matte color.
3. **Warning:** *Do not assume that the walls are consistently white or black, or that the tops of the walls are consistently red, or that the floor is consistently black. Fading may occur, and parts from the mazes may be used. Do not assume that the floor provides a given amount of friction.*
4. The robot must deal with the lighting conditions as they appear. That is, room lighting and window drapes will be set as desired by the judges and will not be modified for individual contestants. Also, flash photography and IR focusing cameras will be allowed unless the judges deem such activities as interfering with the ability to hold the event in general.
5. The start of the maze is located at one of the four corners.
6. Multiple paths to the destination square are allowed and are to be expected.
7. Maze map shall be introduced during the competition proper. Thus, coding for the robot shall be done at the venue.
  - Morning: Coding and Practice
  - Afternoon: Final Round.
8. The arena will be open 30 minutes before the competition.
9. No robot adjustment shall be done during the start of the competition.
10. The time will be measured from the moment the robot starts and finishes.
11. Three chances will be given to each team, and the shortest time will be considered.

12. The team that has the shortest time to complete the map will be the winner.
13. If the robot cannot finish the map, the points equivalent to the distance traveled by robot will be obtained.
14. In case of a tie, a repeated race may be ordered by the organizers.
15. The decisions of all officials regarding these rules and the conduct of the event shall be final.

**Organization:**

1. The robot must be registered before the competition. The registration includes technical inspection of the robot and marking the robot with number sticker.
2. The technical inspection must be completed by the time specified by the organizer.
3. All questions and problems arising during the competition are to be solved by the referee.
4. No objections shall be declared against the facilitator's or judge's decision.

**Division Science and Technology Fair and Robotics Olympics for  
SY 2023-2024  
(Confirmation Slip)**

**Name of School** :

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**Event/Category** :

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**Name of Contestant/s** :

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**Name of Coach** :

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**Contact Number** :

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**Email Address of the Coach:** \_\_\_\_\_

Prepared by:

Name and Signature of the Coach

Noted:

Name and signature of the School Head