



ESTELLA 2.0

Inspiring Students, Creating Leaders



QUANTUM QUIRKS



"Science, Creativity, & Endless Possibilities"

Day 1: Qualifiers

Day 2: Finals

Categories

Young Innovators (Grades 6-8)

Youth Innovators (Grades 9-10)

**The Millennium School
Sector 119, Noida**

201305

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DAY 1

OBJECTIVE

Design and create a working model that connects science with real-life architectural concepts using scientific logic and creativity

The model should demonstrate:

- Scientific principles
- Interdisciplinary application
- Sustainability
- Creativity
- Practical utility

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GUIDELINES

- Each team may consist of a maximum of 4 participants
- The model must be prepared on the day of the competition itself.
- Teams will be given approximately 2.5 hours to make the model.
- The model should integrate at least two concepts from Physics, Chemistry or Biology
- Models should reflect a connection between science and architecture.
- Participants may use only Manually operated tools & Non-programmable devices
- Students must bring their own Stationery items, Recycled materials & Model-making essentials
- Use of sustainable and recycled materials will be highly encouraged.
- The judge's decision will be final and binding for all teams.

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MATERIALS ALLOWED

- Recycled materials & Stationery items
- Laptop (if required)
- Non-hazardous chemicals & Tool kits
- Display items: Banners, Posters & Placards
- Safety materials: Lab coats, Goggles & Gloves
- Electronic devices: Batteries and chargers up to 12V, LEDs, Wires, Sensors, etc.

MATERIALS PROHIBITED

- Sharp tools without teacher supervision
- High-voltage circuits or AC mains connection
- Lithium battery packs & overheating rechargeable cells
- Hazardous chemicals
- Highly flammable substances
- Any material causing Allergies or Harmful fumes

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JUDGEMENT CRITERIA

<u>Criteria</u>	<u>Points</u>
Scientific Accuracy & Working Mechanism	15
Innovation & Creativity	10
Sustainability	10
Presentation & Explanation	10
Integration of Physics, Chemistry, Biology (Minimum 2 Subjects)	5
Total	50

- The top teams will qualify for Day 2 based on their performance on Day 1.
- In case of a tie, a tie-breaker round will be conducted.

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DAY 2 - ROUND 1

IMPROVISATION OF THE MODEL

OBJECTIVE

Showcasing the improvised and upgraded version of the working model with enhanced innovation, interdisciplinary application and scientific reasoning.

GUIDELINES

- The same group of students will represent their team on Day 2.
- Teams will be given approximately 1.5 hours to make the model.
- The rules and instructions as Day 1 will be followed on Day 2.

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- Teams must present an improvised version of their previously submitted working model.
- The upgraded model should demonstrate enhanced scientific application, improved efficiency, creativity or sustainability.
- Students should clearly explain the scientific principles involved and justify the modifications made to the model.
- Teams must ensure the safe handling of materials and avoid the use of hazardous substances or unsafe electrical setups.
- Models integrating concepts from Physics, Chemistry and Biology will be given preference.
- Participants should be prepared to answer questions from the judges regarding scientific concepts, working mechanisms and practical applications.

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JUDGEMENT CRITERIA

<u>Criteria</u>	<u>Points</u>
Scientific Accuracy & Working Mechanism	15
Innovation and Creativity	10
Sustainability & Real-World Application	10
Presentation Skills	5
Scientific Explanation & Concept Clarity	5
Integration of Physics, Chemistry, Biology (Minimum 2 Subjects)	5
Total	50

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DAY 2 ROUND 2

STEM QUIZ

OBJECTIVE

This competition is designed to assess students' scientific aptitude, analytical thinking, problem-solving abilities, observational accuracy and composure under pressure. The quiz emphasizes rapid reasoning, the application of scientific concepts and the immediate recall of principles from Physics, Chemistry, Biology, Environmental Science and STEM-based innovations. Participants are encouraged to demonstrate creativity, logical interpretation, experimental understanding and scientific precision while responding to challenging questions within limited time frames.

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GUIDELINES

- Duration of the quiz: Approximately 60 minutes
- Use of any electronic gadgets is not permitted during the quiz.
- Any form of unfair means will lead to immediate disqualification.
- The Quiz Master's decision will be final and binding in case of disputes.
- Participants are expected to maintain discipline and scientific spirit throughout the competition.

QUIZ INSTRUCTIONS

- Each question will be a buzzer-based question.
- Teams must press the buzzer before answering.
- Correct answer: +10 marks
- Incorrect answer: -5 marks
- No passing of questions will be allowed.

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DECLARATION

The organizing team has made all efforts to make sure no changes are needed. However, modifications, clarifications or adjustments may be made due to unforeseen circumstances.

Participants are expected to extend full cooperation to the organizers and abide by all instructions communicated.

Any form of disorderly conduct, use of unfair means or intentional attempts to hamper the decorum and smooth conduct of the event shall result in immediate disqualification.

Teacher In-Charge: Ms. Mona Bhandhari (99104 18889)

Student In-Charge: Saksham Makhijani (74470 04359)

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