



THE STEM GUIDELINES

- Teams must consist of **4-6 students**
- The competition focuses on innovation, problem-solving, and real-world STEM application
- All rounds will be assessed by experts across scientific and engineering disciplines

ROUND 1

STEM ROUND TABLE : REAL-WORLD PROBLEM SOLVING

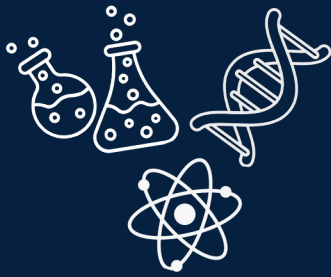
- Teams will be assigned a committee representing a major STEM body (e.g., NASA, NIH, ACS, UNEP, IMU)
- Each group receives a motion linked to a global scientific challenge
- Teams must research, design and propose a structured scientific solution
- **Presentation format:** Digital slideshow or chart paper (provided)
- **Time to prepare solution:** Up to 4 hours
- Internet access available only for first 1 hour for research
- **Presentation duration:** 5 minutes
- Judges and opposing teams may question presenters — defence is essential
- Scoring based on rank, with point differences awarded between positions



JUDGING CRITERIA

FOR ROUND1

Criteria	Description	Marks
Originality	Presents a highly innovative scientific solution with clear novelty and unique perspectives.	10
Literature Methodology	Uses rigorous scientific research, citing authoritative and diverse sources with strong methodological grounding.	10
Validation of Findings and Data	Expertly defends the scientific solution with strong reasoning, clear data, and confident responses.	10
Presentation Style	Delivers a polished, compelling digital presentation using precise language, strong structure, and logical flow.	10



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ROUND 2

ENGINEERING DESIGN CHALLENGE

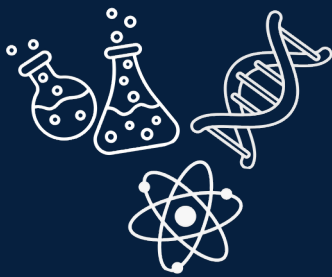
- Teams receive a fixed list of allowable materials
- **Task:** Design a defence mechanism for a hypothetical war-like scenario
- Design must include scientific backing:
 - Material choice justification
 - Structural reasoning
 - Proof-of-concept & feasibility testing
- Internet access available, however do not use any AI tools
- Proposal submission: Digital research file to be completed within 1 hour
- Points awarded out of 16, judged by experts in engineering, physics, and materials science



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JUDGING CRITERIA

Criteria	Description	Marks
Originality	Proposes an exceptionally innovative engineering design with unique structural or conceptual elements.	10
Literature Methodology	Supports by thorough research into engineering principles, materials science, and physics, with strong citations.	10
Engineering Rationale & Feasibility	Provides a highly convincing proof-of-concept with strong engineering reasoning, calculations, and feasibility analysis.	10
Formatting & Digital Proposal Quality	Presents a professionally formatted digital proposal with excellent structure, clarity, diagrams, and coherent layout.	10



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ROUND 3 JEOPARDY

- Top 6 teams advance to the final round
- Game board consists of 6 categories × 5 clues each
- Higher points = higher question difficulty
- The host gives the answer — participants must respond in question format
- Sample: Answer — “3.14 or 22/7...” → Correct Response — “What is Pi?”
- The team with the highest total score wins the championship
- Question range: IBDP-aligned STEM concepts for Grades 9-12

JUDGING BASIS:

- Innovation+ Creativity
- Depth & Quality of Research
- Presentation Style and Clarity
- Practicality + Feasibility of Proposed Solution
- Real-world Impact + Scientific Soundness