Event Proposal: The Tri-Physics Tournament

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1. Overview

The ***Tri-Physics Tournament*** [1] is a three-round team-based competitive event designed to test participants' knowledge, creativity, and practical problemsolving skills in physics. The event blends academic reasoning with hands-on and engaging challenges to encourage interactive learning and team collaboration.

Genre: A hybrid of academic quiz, fun creative puzzle, and practical strategy.

2. Event Structure

2.1 Round 1 - The OWLS (Quiz Competition)

This round involves a written-based quiz focused on core physics concepts. The questions will include multiple choice, audiovisual, and conceptual questions.

- **Duration:** 10 minutes
- **Objective:** Evaluate theoretical knowledge and recall under time pressure
- **Focus Areas:** Mechanics, Thermodynamics, Electromagnetism, Modern Physics
- **Format:** Paper and Pen based rounds

2.1.1 Rules

- Each team must consist of 3 students
- Participants must maintain discipline and sportsmanship throughout the event.
- No discussion is allowed between teams.
- Use of mobile phones, notes, or external assistance is strictly prohibited during all rounds.
- Any form of malpractice or disruption will lead to immediate disqualification.
- The decision of the judges and event coordinators is final and binding.

2.2 Round 2 - Riddikulus (Physics Pictionary)

Participants will engage in a team-based Pictionary round where one member draws a physics-related concept while others guess.

- **Duration:** 20 minutes (3mins per team and Buffer Time)
- **Objective:** Encourage creative representation and conceptual understanding.
- **Rules:** No letters, numbers, or speaking allowed
- **Participants:** Top 6 teams from Round 1 (2 Christite + 4 External)
- **Format:** Whiteboard or chart-based drawing

2.2.1 Rules

- No letters, numbers, words, or symbols.
- No speaking, mouthing, or gestures.
- Use only drawings to communicate the concept.

2.3 Round 3 – Lumos Maxima (Laser Path Challenge)

In this practical round, teams must align four mirrors to direct a fixed laser beam onto a designated target point on a screen while dodging the foam blocks in betwween.

- **Duration:** 5 minutes max
- **Participants:** Top 4 teams from Round 2
- **Materials Provided:** Laser, four mirrors per team, target board
- **Contraints:** Fixed number of mirrors, limited setup time, foam block obstacles
- **Objective:** Apply geometric optics and strategic thinking.
- **Criteria:** Fastest team to focus the beam on to the point wins.

2.3.1 Rules

- The laser source will remain fixed; only mirrors can be adjusted. The fastest and most accurate team wins the final round.

3. Evaluation Criteria

Teams will be assessed based on the following:

- Accuracy and correctness in each round.
- Time management and efficiency.
- Team coordination and strategy.
- Conceptual understanding of physics principles

4. Logistical Requirements

- Whiteboards or chart paper and markers
- Laser pointers and flat mirrors
- A dimly lit room for Round 3
- Tables and chairs for teams and judges

Item	**Description**	**Estimated Cost (INR)**
Laser Pointer (x1)	Fixed	350-500
Flat Mirrors (x5)	Glass or acrylic, 5cm size	100
Foam Blocks	Sheets	50
Stationary	Pens, tapes, markers, etc.	150
Batteries	For laser pointers	50
Miscellaneous	Printing, setup needs	100-200
Total Estimated Budget		**750-1000 INR**

5. Conclusion

The *Tri-Physics Tournament* [1] is an interactive, educational, and entertaining event designed to inspire curiosity and collaboration in physics. By combining theoretical rigor with practical creativity, it offers participants a balanced and enriching experience.

References

[1] Rowling, J. K. (2000). *Harry Potter and the Goblet of Fire*. Bloomsbury Publishing.

[2] Negrete, A., & Lartigue, C. (2006). Learning from education to communicate science as a good story. *Endeavour*, 30(4), 200–204. https://doi.org/10.1016/j.endeavour.2006.10.004

[3] Beveridge, R. (2010). Teaching physics through popular film and fiction. *Physics Education*, 45(5), 507. https://doi.org/10.1088/0031-9120/45/5/F02

[4] Heinrich, J., & Hoffmann, D. (2008). A classroom experiment to determine the law of reflection using laser pointers. *The Physics Teacher*, 46(3), 168–169. https://doi.org/10.1119/1.2840971