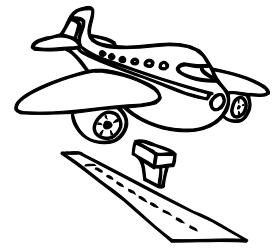


Transportation Contest



DESCRIPTION:

The TECA Transportation Contest is about conceptualizing, designing, and constructing a transportation device or craft for optimal efficiency. The contest has several variations and involves concepts associated with air, land, sea, space and / or intermodal transportation. Scoring factors involve craft performance (i.e., efficiency) in addition to the design documentation and construction.

TEAM:

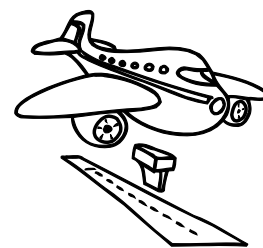
Team members **MUST** be members of an affiliated TECA college and university and must be registered participants at the conference. Each transportation team will consist of 2-5 students, the team may be composed of no more than 40% graduate students. A maximum of one transportation team may enter from each institution at each TECA Regional Conference and the annual ITEEA Conference.

PROCEDURES:

1. All teams must “check in” at a designated time and place to receive the contest specifications.
2. A set of specific contest rules will be included in the contest packet. The contest rules will identify basic criteria and related details for the competition. All contest rules must be adhered to.
3. Aspects of the specific transportation device or system to be developed will occur at each regional contest site. Note: The physical work on the solution for the national contest will be completed off-site. Regional contests may be completed on-site or off- site depending on the challenge.
4. Each team will have the opportunity to test and modify their craft using any unique guide way or path.
5. All entries must be completed in total prior to the specified deadline in order to be eligible.
6. Teams are responsible for cleaning-up their area at the conclusion of the contest.

Violation of any of the rules stated above may constitute immediate disqualification. All teams should display a fair and honest effort throughout the event.

Transportation Contest



MATERIALS:

Each team will be required to bring a mobile robotic kit to solve this year's problems at the regional and national levels. Any robot kit such as LEGO NXT, VEX or equivalent is acceptable. Spare parts will be necessary so as to be able to modify the robot to perform specific tasks. Other materials such as tape, cardboard, sheet metal, etc. may also be used as part of the solution.

JUDGING CRITERIA:

TECA event organizers will appoint several judges to evaluate the contest entries. On scoring items where qualitative decisions or subjectivity is required, the judges' scores will be averaged. The judges' decisions are final.

All transportation devices will be scored on the basis of the rationale, design, construction, and efficiency.

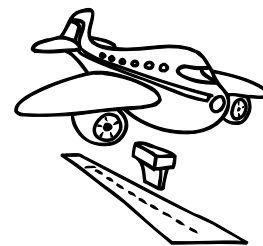
- I. **Ideation:** Written and illustrated documentation that reflects the concept behind the final design. This preliminary plan of your transportation device should be submitted to the contest judges at the appropriate time. The ideation phase could include a discussion of technical factors, notes, and an evaluation of ideas that might play an important role in the design of the craft. Any calculations performed may also be included.

This portion of the contest focuses on the ingenuity of the contestants. Original and creative designs will be issued higher scores.

Points Earned for the Ideation Phase

Excellent / Outstanding	=	24-30 points
Good Effort	=	16-23 points
Fair / Average	=	11-15 points
Poor Effort	=	0-10 points

Transportation Contest



- II. Design Documentation / Illustrations:** This portion of the contest focuses on sketches, technical drawings, etc. that communicate the final plans of the team.

Points Earned for Written & Graphic Documentation

Well Developed, Complete, Etc.	=	17-20 points
Good Quality of Forms / Drawings	=	12-16 points
Somewhat Complete & Accurate	=	8-11 points
Quality & Detail Missing	=	0-7 points

- III. Construction:** This portion of the contest assesses the quality of construction and overall appearance of the transportation device / system. Well-constructed designs will be issued higher scores. Also, the final item(s) must match the approved drawings.

Points Earned for Construction

Excellent Construction	=	21-25 points
Good Construction	=	16-20 points
Average Construction	=	11-15 points
Poor Construction	=	6-10 points
None	=	0 points

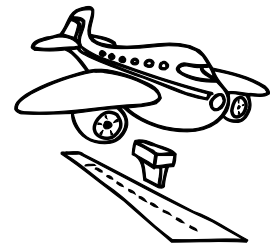
- IV. Efficiency:** This portion of the contest is concerned with the efficiency of transporting humans or freight from one point to another. Efficiency usually takes into account the amount of cargo hauled in relationship to the fuel consumed and / or the speed of transport.

Note: A set of specific efficiency contest criteria for each individual competition will be provided in the contest packet to be received at the time of registration for this event. The "efficiency" score may be based on distance, time, or some related criteria.

Points Earned for Efficiency

Greatest Efficiency	=	25 points
Next Best Level Of Efficiency	=	18-22 points
"Good" Level Of Efficiency	=	10-17 points
Poor Efficiency	=	0-9 points

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JUDGING FORM

School : _____ Team Captain : _____

IDEATION PHASE / CONCEPTUALIZATION

Brainstorming / Development 10 Points Possible _____
(Key ideas covered in written and graphic form, detailed, appropriate)

Technical Factors 15 Points Possible _____
(Consideration of scientific and technological principles, calculations, terms, etc.)

Creativity 5 Points Possible _____
(Innovative, resourceful, etc.)

DESIGN DOCUMENTATION

Design Paperwork 5 Points Possible _____
(Forms completed accurately / neatly, etc.)

Sketches / Final Drawings 15 Points Possible _____
(Quality of preliminary sketches through final illustrations)

CONSTRUCTION

Vehicle / System 25 Points Possible _____
(Craftsmanship, appropriate use of approved materials, matches the final drawings / plans)

Comments:

EFFICIENCY

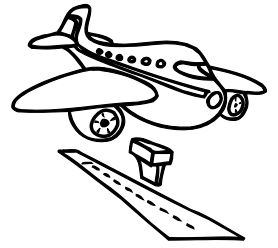
Best Time / Distance / Etc 25 Points Possible _____
(Score from the competition trials / finals, with only the best mark getting the full 25 points)

Value: _____ Units: _____

COMMENTS

Total (of 100 points): _____

Transportation Contest



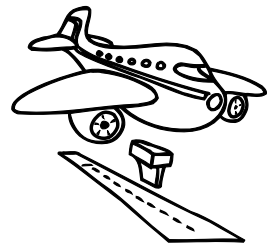
IDEATION WORKSHEET

University / School: _____ Page ____ of ____

Design Notes (Operational requirements, dimensions, environment, etc.)

Transportation

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PLANNING WORKSHEET

University / School: _____ Page _____ of _____

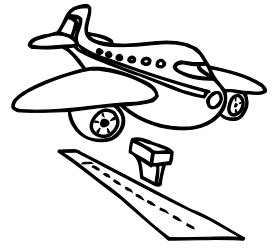
Potential Solutions

Advantages

Disadvantages

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DESIGN SKETCHES

University / School: _____ Page _____ of _____

Transportation