

Awards and Judging Policies

I. Awards

The following awards will be given at all BEST hub competitions:

BEST Award

Awarded to the team that best embodies the concept of ***Boosting Engineering, Science and Technology***. Winning the BEST Award is considered the highest achievement any team in the competition can accomplish. First, second, and third place finishes will be awarded.

Competition Award

Awarded to the teams whose machines finish first, second, and third in the tournament bracket.

Founders Award for Creative Design

Awarded to the team that makes best use of the engineering process in consideration of offensive and defensive capabilities in machine design; awarded in recognition of BEST founders Steve Marum and Ted Mahler.

Most Robust

Awarded to the team whose machine requires the least maintenance during and between matches and is generally the sturdiest machine in the competition.

II. Project Summary Notebook

- ALL participating teams will be required to submit a Project Summary Notebook following the guidelines in Category I of the BEST Award Guidelines below. All notebooks will be graded on a 30-point scale, as defined in the BEST Award Guidelines.
- On Game Day, the notebook scores of all teams will be used to determine which 4 teams earn a chance for the single “wildcard” slot. The wildcard team will be one of eight teams that advance to the playoff rounds. Check the Game Rules for further details.
- The regional competitions will NOT require all teams to submit a notebook. Only the teams competing for the BEST Award will be required to submit a notebook. As such, the regional competitions will not have a “wildcard” match to determine the teams advancing to the final rounds of play.

III. BEST Award Guidelines

The BEST Award is presented to the team that best embodies the concept of *Boosting Engineering, Science, and Technology*. This concept recognizes that inclusiveness, diversity of participation, exposure to and use of the engineering process, sportsmanship, teamwork, creativity, positive attitude and enthusiasm, and school and community involvement play

significant roles in a team's competitive experience and contribute to student success in the competition beyond winning an award.

In accordance with the BEST philosophy, **materials submitted by teams must be the work of students.** The involvement of student peers in auxiliary roles to support a school's official BEST team with the documentation – i.e., journalists, photographers, artists, musicians – is encouraged.

Space constraints at each regional competition site will determine the number of teams that can compete for the BEST Award (check with the specific guidelines published by each regional site). In order for a team to be eligible to compete for the BEST Award at any of the regional competitions, the team: (1) must have competed for the BEST Award at their local hub competition, and (2) must agree to compete in all five of the BEST Award categories at the regional competition.

Evaluation and Judging Procedures

Criteria

- Evaluation of competitors will be based on the criteria outlined in these guidelines. An evaluation score of a total possible 100 points will be composed of the following:
 - Category I - Project Summary Notebook (mandatory for ALL teams, including teams NOT competing in the BEST Award)
 - Category II - Oral Presentation (at hub's discretion for BEST Award inclusion)
 - Category III - Table Display and Interviews (at hub's discretion for BEST Award inclusion)
 - Category IV - Spirit and Sportsmanship (mandatory for all BEST Award teams)
 - Category V - Robot Performance (mandatory for all BEST Award teams)

Hubs are required to judge at least four of the above five categories using one of the following scenarios:

Scenario 1: (preferred)

Judging Category	Point Value
Project Summary Notebook	30 points
Oral Presentation	25 points
Table Display and Interviews	25 points
Spirit and Sportsmanship	15 points
Robot Performance	5 points
<i>Total</i>	<i>100 points</i>

Scenario 2:

Judging Category	Point Value
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Project Summary Notebook	30 points
Oral Presentation	25 points
Spirit and Sportsmanship	15 points
Robot Performance	5 points
Total	75 points

Scenario 3:

Judging Category	Point Value
Project Summary Notebook	30 points
Table Display and Interviews	25 points
Spirit and Sportsmanship	15 points
Robot Performance	5 points
<i>Total</i>	<i>75 points</i>

Judging Procedure

- A distinguished team of judges from private and public sectors with technical and non-technical expertise will evaluate teams. Judges will serve on a rotation schedule.
- As each team completes a category, it will receive a category score that is the average of individual scores of the judges reviewing it.
- Teams should know in advance that scores among many teams frequently differ by only fractions of a point.
- Throughout the judging process, the judges may take into consideration the resources available to teams to conduct their BEST programs (financial or technology resources, for example).

Results

- Each advancing team will be mailed a copy of its score sheets following their local competition. Score sheets of non-advancing teams will be mailed upon request.
- Teams advancing to the regional competitions can use judges' comments to make improvements as they wish.

Category I: Project Summary Notebook

Guidelines

- The purpose of the notebook is to document the process the team used to design, build, and test their robot.

- ALL teams (both BEST Award and non-BEST Award competing teams) are required to submit a Project Summary Notebook.
- See local hub deadlines for more information on when the notebook should be turned in to the local hub.
- The notebook must meet the following specifications:
 - Submitted in a *standard* 3-ring binder with a maximum 2” ring size
 - 30 typed pages or less
 - Within the 30 pages, include a description of how the current year’s game theme is related to current technological practices or scientific research (minimum of 2 pages, maximum of 5 pages out of the 30 allotted)
 - Binder cover must identify the school, team name, and teacher contact
 - Provide description of the process the team used to design and complete its robot
 - Standard, 8 ½” x 11” paper, double-spaced, 1” margins, and Times New Roman (preferred) or similar business-style font no smaller than 12 pt. Single-spacing is acceptable in tables and outlines.
 - In supplemental appendices of up to 20 pages in length, teams may provide additional material as support documentation, such as drawings, photos, organization charts, minutes of team meetings, test results, etc. *This material should directly support the process described in the primary document and NOT reflect activities related to community or promotional efforts, spirit development, or team-building.*

Evaluation

- The notebook will be judged on the documentation of the team’s:
 - Implementation of the engineering design process
Evidence that the engineering process was effectively used.
 - Brainstorming approaches
How well organized and productive was the brainstorming approach used and documented?
 - Analytical evaluation of design alternatives
Use of analytical and mathematical skills in deciding upon and implementing design alternatives
 - Offensive and defensive strategies
Analysis of gaming strategies and design elements to achieve goals.

- Design creativity
Overall use of design creativity to solve the problem presented in the game.
- Overall quality of notebook
Organization, appearance, adherence to specifications and quality of content
- Support documentation
CAD /other drawings, photos, organization, team minutes, test results, etc. that support the main document.

Category II: Oral Presentation

- For the oral presentation, the team should view themselves as employees of a “company” that is marketing their “product” (robot) to a potential buyer (judges). This marketing team is an integral part of the engineering team that has designed a specialized robot. The marketing presentation should provide information about their company, the engineering team involved in the design and construction of the product, and why their product is the best one on the market that can complete the assigned task. The potential buyer will be assessing the following:
 - The company’s design and manufacturing process (engineering process of “design to market”, including a discussion on the advantages of your company’s robot design)
 - Discuss the technological resources your company used to design and construct the robot
 - Marketing strategies (e.g., school and community involvement, promotional efforts, etc) to promote BEST
 - Fundraising efforts and discussion of how funds were allocated
 - The company’s demographics and operations (e.g., diversity of team members involved, team building experiences, displays of sportsmanship, etc)
- Each BEST Award team will sign up for a presentation time slot to occur at a time designated by the local hub.

Guidelines

- A minimum of 4 students must actively participate in the presentation. A maximum of 8 representatives for the team may be in the presentation room, including the presenters.
- Adults are not allowed to participate, but may be present in the room (counting as one of the 8 representatives).
- Representation by student presenters from more than one grade level is encouraged and will be considered in the evaluation as part of the team’s recruitment efforts.

- Videotaping/photographing by team representatives will be allowed during the presentation, however, the person(s) handling videotaping will be counted in the 8 maximum number allowed.
- The presentation format is the prerogative of the team.
- The team must provide any equipment it wishes to use, or check with the local hub for information about what equipment can be provided.

Time Breakdown

- There will be a check-in station in the general area of the presentation rooms (location TBA).
- Teams should check in 15 minutes prior to their time slot.
- The order and breakdown for the 25-minute presentation time period is as follows:
 - *5 minutes:* Set-up
 - *12 minutes:* Presentation
 - *5 minutes:* Q&A with judges
 - *3 minutes:* Break-down and clear room

Note: Teams not requiring set-up or break-down time may utilize that time for their presentation (for a total presentation time of up to 20 minutes).

- Five minutes will be scheduled between presentation sessions to allow judges time to confer without the team present.

Evaluation

- Presentations will be evaluated with consideration of:
 - Design and Manufacturing Process (Engineering Process):
Brainstorming approaches, analytical evaluation of design alternatives, offensive and defensive evaluation, effective implementation of the process, design creativity to solve the problem
 - Use of available technology
CAD or other drawings, web page development, computer simulations, etc.
 - Marketing Strategies
Efforts to promote BEST in School and Community
 - Fundraising Efforts/Strategies
Team fundraising events, explanation of fund allocation

- Company/Team demographics and operations
Spirit/team building efforts, sportsmanship, diversity of team members, Involvement with and mentoring to other schools/groups
- Presentation's overall quality
Understandable, well organized, prepared, met specs., format, communication skills, presentation professionalism, Q & A quality

Category III: Table Displays and Interviews

- The purpose of the table display and interviews category is to:
 - Communicate through a display, and through discussion with judges, information about the team's efforts to promote BEST in the community and schools
 - Foster BEST spirit, camaraderie, and participation
 - Give evidence of sportsmanship

Guidelines

- Each team will be provided with a standard six-foot long table (approximately 29 inches wide).
- Check with local hub for maximum allowed floor space for table displays (note: a 10' X 10' display space will be allocated per team at the regional competitions).
- Skirting for the table will not be provided.
- Each team should bring one extension cord and one power strip.
- Other display items may be used but must not exceed the space allocated by the hub.
- Teams are encouraged to avoid using expensive store-bought display boards and structures and opt for more creative and hand-made display props.
- Any audio-visual equipment needs and extra extension cords will be the responsibility of the team.
- Each team is responsible for security of its own material.
- Each team is also responsible for breakdown of its team materials and clean-up of its display area following the awards ceremony on Game Day.

- All material should be clearly marked with the appropriate identification and contact information.
- Check with the local hub concerning when and where table displays can be set up.
- Candy and other food items are not permitted at table exhibits as complimentary handouts.
- During the designated interview time, at least one student representative from the team must be present who is able to respond to informal questions asked about the display. These questions will be part of the interview evaluation of the team.
- Teams should expect to be visited by three different judges during this period.
- Judges may also interview team members in the pit area and in the seating area.

Evaluation

- Displays (15 points) will be evaluated on:
 - Promotion of BEST, including recruitment and information-sharing with other schools, presentations, and demonstrations
 - Use of technology, display models or boards, or multi-media in promotion of BEST
 - Creativity in design and presentation of display
 - Publicity activities (publicity materials, media/press, fund raising efforts in school, and community efforts to other schools and community groups)
 - Compliance with above guidelines
- Interviews (10 points) will be evaluated on:
 - Enthusiasm and learning experience from BEST
 - Team recruiting (cross section of student population with multi-grade levels)
 - Level of student participation (students were the primary designers and builders of the team's robot)

Category IV: Spirit and Sportsmanship (15 Points)

- Judges will evaluate this category on Game Day.
- They will observe the spirit promoted by the team during the competition rounds as well as the team's conduct throughout the day in the seating area, table display area, game floor, and pit area.

Evaluation

- Spirit includes the vigor, enthusiasm, and animation displayed by team representatives
- Teams can use posters, cheerleaders, musicians, mascots and costumes to increase the level of spirit
- Sportsmanship includes outward displays of sportsmanship, grace in winning and losing, and conduct and attitude considered befitting participation in sports
- Overall team sportsmanship is also demonstrated by students (not mentors) making the majority of robot adjustments and repairs during the competition

Category V: Robot Performance (5 Points)

- The fifth category, *Robot Performance*, will determine the final 5% of possible BEST Award points. These 5 points will be based on the total game points earned throughout the seeding competition (prior to the championship rounds) according to the following scale:
 - Team finishes in top 20% of all teams competing at hub 5 Points
 - Team finishes in top 40% of all teams competing at hub 4 Points
 - Team finishes in top 60% of all teams competing at hub 3 Points
 - Team finishes in top 80% of all teams competing at hub 2 Points
 - Team finishes in top 100% of all teams competing at hub 1 Point
 - Team is unable to score any points during the competition 0 Points
- Up to 5 Robot Performance points will be added to the total BEST Award points.

BEST Award Recognition

- The teams ranked first, second, and third in the BEST Award Division will receive trophies superior to the teams finishing first through third in the Game Division.
- Ties will be allowed only after detailed review by the judges.
- Presentation of the BEST Award trophies will be made during the awards ceremony on Game Day.