The Guide to Judging for the 2024-2025 season for various VEX robotics competitions outlines comprehensive guidelines aimed at ensuring consistency and fairness in the evaluation process across different events, including VEX IQ Robotics Competition, VEX V5 Robotics Competition, VEX AI Robotics Competition, and VEX U Robotics Competition. This resource serves to clarify judging principles such as confidentiality, impartiality, and consistency, emphasizing that judges must remain unbiased and keep all discussions regarding team evaluations private. It also highlights the importance of preparing in advance, detailing roles from Event Partners to Judges, and establishing necessary protocols to avoid conflicts of interest. Moreover, it lays out a structured approach for judging, including requirements for Engineering Notebooks and team presentations, ensuring judges evaluate teams based on shared standards and criteria. With a focus on student-centered values, the guide stresses that student-driven efforts should lead the design and programming processes while minimizing adult intervention, promoting a hands-on learning environment through independent inquiry. Furthermore, the judging structure mandates that awards are presented in a manner conducive to fostering integrity, where no single team can win more than one Judged Award at a given event, albeit acknowledging that performance awards differ in nature. The document is regularly updated to address clarity and procedural changes, ensuring all participating teams and judges have access to the latest information for a seamless experience. Overall, judges are equipped with resources and rubrics to evaluate submissions while maintaining ethical standards, knowing that their decisions directly impact the educational journey of the students involved. Clear instructions found within specific sections cover various aspects such as event preparation, the importance of accurate criteria application, effective communication during interviews, and final deliberations for awards, guiding participants through the necessary steps to uphold a high-quality judging experience throughout the competition season. Each section explicitly breaks down the tasks required of different roles leading up to, during, and after an event, thereby facilitating a structured approach to running successful competitions and ensuring each participant is given fair consideration based on their efforts and contributions. Comprehensive training materials, alongside collaborative efforts from Judge Advisors and Event Partners, aim to support judges in executing their responsibilities effectively and with due diligence. As part of this collaborative framework, training sessions and discussions are organized to prepare judges ahead of events, promoting a cohesive understanding among volunteers regarding the crucial impact their evaluations have on student participants, as well as the overall event experience. The guide integrates practical tools, including various submission forms, rubrics for both Engineering Notebooks and team interviews, providing a clear standard for judges while fostering a supportive environment for the teams involved. This document symbolizes a commitment to education through robotics, emphasizing the role of judges as facilitators who recognize and reward the innovative spirit of the teams, encouraging ongoing development and learning throughout the season. As robotics education continues to evolve, the policies established in this judging guide adapt to new challenges and revelations, ensuring that all

program participants are engaged in a meaningful learning process that aligns with the REC Foundation's overarching goals. Ultimately, this guide not only serves as a manual for operational procedures but also shares a vision of what competitive robotics can achieve in cultivating a generation of innovators and problem solvers ready to face the challenges of tomorrow.

Notebooks play a vital role throughout the competitive robotics event structure, from inspections to final deliberations. The first moments set the tone, with teams undergoing inspections followed by Skills Challenge Matches. Judges are organized into groups for team interviews, which can proceed once they've been assigned. The schedule includes an event meeting where teams seek clarifications, followed by qualification matches interspersed with breaks for interviews. Lunch breaks are crucial for both judges and teams, providing opportunities to discuss progress and recognize top candidates for awards. As qualification matches proceed and team interviews finish, judges gather critical rankings for Skills Challenges and any field notes necessary for award decisions. Afternoon activities focus on alliance selections or pairings, with final deliberations conducted without further interviews. The event wraps up with elimination and finals matches, where teams receive their awards, culminating in closing ceremonies. Judges then tidy the judging area, ensuring the removal of all identifying information before their reflections become part of the award reports. Various awards apply at these competitions, with a clear structure determining qualifying criteria for events leading to region championships or the prestigious VEX Robotics World Championship. Three award categories exist: performance awards, based on field or skills match results; judged awards that reflect evaluation by judges utilizing specific criteria and rubrics; and volunteer-nominated awards that engage event staff to recognize deserving teams based on their observations. Notably, teams must conduct an interview to receive judged awards, and most require submission of an Engineering Notebook, which documents their design journey and decision-making process. Essential judged awards include the Excellence Award, which encompasses both performance and judged criteria, along with the Design, Innovate, and Judges Awards, which assess engineering approaches and creativity in robot design and functions. The event may also feature individual recognition awards for mentors and partners who have dedicated their resources and efforts to the field of competitive robotics education. The importance of the Engineering Notebook cannot be understated; it serves as documentation of a team's journey and organizational skills in pursuing their project goals. It must reflect a true narrative of the team's efforts, focusing on student contributions, accolades, and honest citations of ideas derived from external sources. Any evidence of academic dishonesty will result in disqualification from awards, underscoring the need for integrity and original work. Team notebooks should be detailed, chronologically organized, and clearly indicate authorship of each entry, facilitating transparency during evaluations. Judges will evaluate notebooks based on established criteria, weighing both content and presentation yet prioritizing the substance of the design process over artistic embellishment. Each team submits their Engineering Notebooks, either

physically or digitally, ensuring compliance with the submission format required by event partners. This system fosters a competitive yet educational environment where students develop essential skills transferable to their academic and professional futures through the art of engineering design processes documented meticulously in their notebooks. Robust features of well-constructed Engineering Notebooks include effective project management and documentation of challenges faced, iteration refinements, team collaboration, and the application of coding techniques that emerge throughout their competition lifecycle, reinforcing best practices in engineering education. Familiarity with these elements set teams up for successful evaluations while confronting the challenges of robotics competitions.

The Engineering Notebook Rubric outlines the evaluation criteria for Fully Developed notebooks, which must achieve scores of two or higher in the initial four criteria to qualify for key awards. Fully Developed notebooks are particularly critical when it comes to awards like Innovate, Design, and Excellence, and they can contain supplementary links or QR codes to external content, but judges will not evaluate this additional material, focusing instead on the summarized insights provided within the notebook itself. Judges are encouraged to assess the notebooks in conjunction with interviews to ensure consistency in evaluations. During the evaluation process, the same judges assessing teams' notebooks should ideally also conduct their interviews to create a cohesive understanding of the team's efforts and achievements. Scoring involves pinpointing proficiency levels across the rubric criteria rather than conducting exhaustive page-by-page reviews. Honestly, judges will primarily concentrate on significant entries relevant to the performance scores. A minimum of two judges should evaluate each notebook to ensure calibration in the scoring process, which can also include discussions about initial scores to enhance scoring consistency throughout the competition. If further evaluations are needed, judges may conduct follow-up interviews to support final decisions. The team interviews are structured around the Team Interview Rubric, allowing judges to gauge teamwork, professionalism, and related elements as teams vie for awards. These interviews may take place in the team's working areas or secluded settings to balance quietness and comfort, and schedules for such interviews should be uniform across all competitors. The interview aims for student members to answer questions directly, minimizing adult interference to allow authentic student expressions. If teams decide to pass on an interview, they forfeit eligibility for judge-based awards, with certain exceptions. The interviewing process can adopt a standard questioning format to ensure coverage of the essential topics without dictating responses, giving judges the liberty to follow student remarks with pertinent questions. Time management is crucial, ensuring that all teams are allotted comparable interview times, typically fifteen minutes, while being flexible for those requiring interpreters. Should a team fail to be found during the interview appointments, judges will leave notes at their pits without penalizing them for follow-ups. Once initial interviews conclude, judges will proceed to shortlist award candidates within their specific groups, documenting their rec-

ommendations on ranking sheets. The judging groups meet to delineate which teams advance based on performance and scoring data from the rubric, preparing nominees for the deliberation stage. Subsequent evaluations produce final nominations as judges compile quantitative observations to compare one team's performance against another. This stage is sensitive, requiring confidentiality to promote candid discussions regarding candidate strengths and weaknesses. The last phase of deliberation involves confirming award winners based on these assessments and ensuring nominees have viable alternatives for awards to prevent any conflict of interest concerning awards' precedence. Careful documentation throughout the event assists in tracking which awards remain available for each team, facilitating a structured conclusion to proceedings. The deliberation concludes with judges entering the final winners into the Tournament Manager system, ensuring compliance with the overall procedures to secure a smooth award ceremony. Subsequently, all judging materials, including notes and evaluation sheets, must be properly destroyed to maintain confidentiality post-event. A significant observation includes the potential for remote judging, which can ease the burden of in-person evaluations but demands uniformity in format to retain fairness amongst teams. Teams may submit digital notebooks in advance, with judges reviewing these on the platform. Meetings for remote interviews require structured coordination to ensure technology does not impede the process and confirm that all principles of judging remain intact throughout. Such remote judging opportunities provide flexibility and optimize the utilization of volunteer judges while maintaining an adherence to guidelines. Having formal protocols ensures a strong focus on youth protection during remote interactions, by mandating visible adult representatives and ensuring that no judgments compromise security or confidentiality. Careful scheduling considerations pave the way for efficient remote interviews, preventing any one-on-one interactions without proper oversight, reinforcing the integrity of the decision-making process.

In the context of evaluating student teams in engineering and robotics competitions, a comprehensive rubric underscores key components that influence the assessment of their projects and interviews. A critical measure focuses on the systematic documentation of the design process, emphasizing the necessity of recording each step taken in testing solutions as well as reiterating the design cycle to refine robot performance or game strategies. Evidence of independent inquiry at all stages poses another significant criterion, where teams are required to validate the originality of their ideas and to appropriately credit external inspirations. Usability and completeness of documentation play vital roles, as it must detail the entire design and developmental journey comprehensively and clearly enough for readers to reconstruct the project history. Alongside these, a thorough record of team dynamics and project management is essential, where each team's assignments, meeting notes, goals, and other critical management elements must be meticulously cataloged. The notebook format stands as another pivotal aspect of evaluation, wherein clear chronological entries and thoughtful organization can enhance the understanding of the design process as it unfolds.

As teams engage in interviews, judges assess several vital factors including how

effectively teams articulate their engineering design process. The depth of understanding manifested during discussions surrounding game strategies, robot design, and construction reveals the team's ownership over the project. The manifestation of creativity and originality during interviews far exceeds mere acknowledgment of ideas, encouraging students to express the innovative elements embedded in their designs. Additionally, teamwork and communication raise the discourse to another level as judges scrutinize the members' collaborative efforts in managing projects, where positive interactions and professional conduct mark a standout team.

The criteria are not only limited to project management; excellence in engineering and design often requires nuanced understanding regarding execution and its impacts. Evaluative benchmarks are implemented to identify and nominate teams for various awards. The Excellence Award serves as an aggregate measure, consolidating multiple factors including interview performance and rankings in skill challenges. Furthermore, distinct awards like the Innovate Award, Think Award, and Inspire Award highlight unique facets in projects, such as innovative solutions stemming from documented processes, proficient coding techniques, and overall enthusiasm at events. Additional recognition for attributes like sportsmanship and energy ensures a holistic assessment of the team's experience and interaction throughout the competitive landscape.

The collaborative effort of judges over the course of events allows them to engage with teams, observe their dynamics, and understand the essence of their projects, paving pathways for potential future success within the competition community. They utilize structured approaches and checklists to maintain an organized and respectful interviewing atmosphere, facilitating meaningful exchanges that enrich the educational journey of participants. By ensuring an equitable framework for assessing team submissions and performances, the judging process holds the integrity of competition alive, emphasizing growth, learning, and the shared passion for robotics engineering among participating teams.