



## VEX IQ Challenge Awards



### New This Year

The major changes to the VEX IQ Awards appendix this year include:

- Removed STEM Project as a requirement for the Excellence Award
- Moved STEM Research Project to an online video submission
- Further defined notebook content.
- Revised the Inspire Award
- Strengthened Statement on required use of official Award descriptions and judging procedures at qualifying events.

### Awards Overview

Teams should consider their season a success if they learned something new and had fun in applying their knowledge and skills to the VEX IQ Challenge. Events provide a great opportunity to share and recognize the accomplishments and contributions of the student participants!

This section details the full list of awards presented in the VEX IQ Challenge Program. Most local and regional events will offer a small subset of these awards, based on the number of teams at their event. The only event likely to present each and every one of these awards will be VEX Worlds, as warranted by the hundreds of teams participating. The awards presented at each event are chosen by the event planning committee with the help of their Regional Support Manager. Details on the judging process used to select award winners are available in the Judge Guide located at [roboticseducation.org/event-partners/event-partner-resources-documents/](http://roboticseducation.org/event-partners/event-partner-resources-documents/).

**Official events may not change award criteria from those listed below. Events not following the award criteria in this document will not qualify to higher level events. Judges at local and state/regional/provincial qualifying events must follow the judging process outlined in the official VEX IQ judge guide. Event Partners are to recruit judge advisors and judges. Event partners are not to determine winners of judged awards.**



## Student Centered Teams

The Robotics Education & Competition Foundation seeks to increase student interest and involvement in science, technology, engineering, and mathematics (STEM) by engaging students in hands-on sustainable and affordable curriculum-based robotics engineering programs across the U.S. and internationally. Judges play an important role in our efforts to ensure that our program remains student-centered.

Teachers/Mentors/Parents providing guidance and helping students design, fix or program robots is acceptable. Adults doing the majority of the work on a robot, or working on a robot alone without students, is not acceptable, as there is obviously limited student learning and ownership taking place in such a situation.

Judges have the opportunity through observation and interviews to identify teams, schools and clubs that strive to keep their program student centered and that understand the purpose of the program is to enhance the learning process, not to win at all costs. Judges, with input from event staff, are instructed to identify teams that are not student-centered.

Examples of teams that are not student-centered may include:

- Robots built entirely by mentors.
- Identical robots on two or more teams (so called clone-bots).
- Adults who criticize students from alliance teams for poor performance, failure to perform optimally or who blame other teams for low scores rather than offering positive suggestions.

Judges are instructed not to reward teams that Judges have clearly identified as not student centered with any Judged awards.

The following is a standard set of awards that will be offered at most events.

Standard Awards	
Excellence Award	Top All Around Program (Robot Performance and Judged)
Teamwork Champion Award (2 teams)	1st Place Teamwork Challenge Alliance (Robot Performance)
Design Award	Most effective and efficient robot design process
Robot Skills Champion Award	Top combined Programming and Driving Skills Challenge score (Robot Performance)
Judges Award	Recognition from Judges for special accomplishments

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VEX Worlds and other large events may also offer some or all of the following awards. For a listing of the awards offered at your event and of the awards that qualify for advancement to championship events, please visit your event page at [robotevents.com](http://robotevents.com):

<b>Robot Performance Awards - Based on the team's performance in the VEX IQ Challenges</b>	
Teamwork Finalist Award (2 teams)	Each Team on the 2 <sup>nd</sup> Place Teamwork Challenge Alliance
Teamwork 2 <sup>nd</sup> Place Award (2 teams)	Each Team on the 2 <sup>nd</sup> Place Teamwork Challenge Alliance at VEX Worlds
Teamwork 3 <sup>rd</sup> Place Award (2 teams)	Each Team on the 3 <sup>rd</sup> Place Teamwork Challenge Alliance at VEX Worlds
Robot Skills 2 <sup>nd</sup> Place Award	2 <sup>nd</sup> Place combined Programming and Driving Skills Challenge
Robot Skills 3 <sup>rd</sup> Place Award	3 <sup>rd</sup> Place combined Programming and Driving Skills Challenge

<b>Technical Judged Awards - Based on the Judges deliberations</b>	
Amaze Award	Amazing, well rounded, and top performing robot
Build Award	Sturdy, well-crafted robot
Create Award	Robot with a creative engineering solution
Think Award	Robot utilizes effective programming

<b>Other Judged Team Awards</b>	
STEM Research Project	Recognizes the best STEM project video submission
Energy Award	Demonstrates extraordinary enthusiasm
Sportsmanship Award	Demonstrates respect and great enthusiasm

<b>Individual Awards</b>	
Mentor of the Year Award	Recognizes outstanding mentor
Teacher of the Year Award	Recognizes outstanding teacher
Volunteer of the Year Award	Recognizes outstanding program/event volunteer
Inspiration All-Star	Recognized Adult STEM All-Star (given at VEX Worlds)

## Team Professionalism and Ethics

The REC Foundation considers positive, respectful, and ethical conduct to be an essential component of the VEX IQ Challenge. Ethics is an important part of every engineer's professional training and practice. When determining awards, Judges will consider the conduct of the team to include the students, adults, and mentors associated with the team.

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## Excellence Award

The **Excellence Award** is the highest award presented in the VEX IQ Challenge. This award is presented to a team that exemplifies overall excellence in creating a high quality VEX robotics **program**. This team is a strong contender in numerous award categories. Excellence winners must have an Engineering Notebook.

Key criteria:

- Design Award ranking
- Teamwork Challenge Qualification Matches ranking
- Robot Skills Challenge ranking
- Other Judged award rankings
- High quality VEX robotics program

Events having at least ten (10) teams at each the Elementary School and Middle School levels may offer two Excellence Awards, one for the top overall Elementary School team and one for the top overall Middle School team. Teams do not have to submit a STEM project to be eligible for the Excellence Award.

## Excellence Award at VEX Worlds

At VEX Worlds, Excellence Awards will be offered at the Middle School and Elementary School levels. Teams must have been awarded the Excellence Award at an official state/regional(multi-state)/provincial/national championship event or a REC Foundation designated signature event during the current competition year to be eligible for Excellence at VEX Worlds. Teams must submit their Engineering Notebook to be considered for the Excellence Award at VEX Worlds.

Please note that if an individual team receives the Excellence Award at VEX Worlds, then the award is given to that team's school or organization, not just the single team. Schools or organizations that have won the Excellence Award at VEX Worlds in the previous three years will not be eligible for the Excellence Award at VEX Worlds.

## Design Award

The **Design Award** recipient demonstrates the ability to implement the most effective and efficient robot design process. Their Engineering Notebook and discussion with the Judges will demonstrate the team's ability to produce a quality robot with minimal adult assistance. Only teams that submit Engineering Notebooks are eligible for the Design Award.

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Key criteria:

- Engineering Notebook is a clear, complete, and organized document of the robot design process.
- Team demonstrates effective management of skills, time, and material resources.
- Students understand and explain how they developed an effective game strategy and robot design.
- Students demonstrate teamwork and effective communication skills.

## Design Award Rubric

Judges will use the Design Award Rubric to evaluate the teams' performance on the award criteria. The first part of the Design Award Rubric is used to evaluate the quality of a team's Engineering Notebook. The second part of the rubric is then used to evaluate the students' understanding and application of an effective robot design process, as demonstrated in their team pit interview with Judges. The Design Award Rubric is available in the Judge Guide at: [roboticseducation.org/event-partners/event-partner-resources-documents/](http://roboticseducation.org/event-partners/event-partner-resources-documents/)

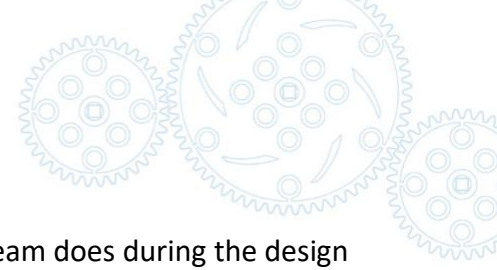
## Design Award – Engineering Notebook

One of the primary missions of the VEX IQ Challenge is to help students acquire real world life skills that will benefit them in their academic and professional future. The Engineering Notebook is a way for teams to document how the VEX IQ Challenge experience has helped them to better understand the engineering design process while also practicing a variety of critical life skills including project management, time management, brainstorming, and teamwork. Bound notebooks are preferred by judges. Teams receive bound Engineering Notebook when they register. Instructions and examples are included in the front of the notebook.

Each notebook is created through a concerted effort by a team to document their design decisions. Large events may send a Design Award winner to a state or regional championship, so teams should start their notebooks early and update them often.

Engineering is an iterative process whereby students recognize and define a problem, brainstorm and work through various stages of the design process, test their designs, continue to improve their designs, and continue the process until a solution has been identified. During this process, students will come across obstacles, encounter instances of success and failure, and learn many lessons. It is this iterative process that students should document in their Engineering Notebook.

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The Engineering Notebook provides an opportunity to document everything a team does during the design process. Students should include a number of items in their Engineering Notebook including: a table of contents, team meeting notes as they relate to the design process, design concepts and sketches, pictures, notes from competitions regarding observations that should be considered in the next iteration of their design, team members' observations and thoughts on their design, team organization practices as they relate to their design process, and any other documentation that a team finds useful as related to their robots design. The team should also document their project management practices including their use of personnel, financial, and time resources.

A good notebook would allow a person who is unfamiliar with the team's work to take over the robot design/construction based on a team's detailed design documentation.

The Engineering Notebook provided by the REC Foundation with team registrations includes hints on good notebook practices and gives examples of good practices. A bound quad-ruled notebook is the preferred format. You may use the notebook provided by VEX or purchase your own bound notebook from any one of many online sources. The notebook should never be edited. The team number should be on the cover. The notebook should be written in ink with errors crossed out using a single line. Pages should be numbered and entries should be dated in chronological order with each page signed or initialed by the students. Additional materials such as computer code or CAD drawings should be glued or taped into the notebook. Pages should never be removed from the Notebook even if they contain errors.

**Note:** Judges will not accept Electronic notebooks on laptops, thumb drives, or cloud-based servers. The Design Rubric may be found at the end of this document. Teams will be interviewed in their pit area during local and state competitions.

## Design Award at VEX Worlds

At VEX Worlds, teams must have been awarded the Design or Excellence Award at a state/regional(multi-state)/provincial/national championship event to be eligible to be considered for Design.

Eligible teams will be contacted prior to VEX Worlds and asked to submit their Engineering Notebooks at check in **on Sunday**. Teams with high quality Engineering Notebooks will be selected for Design Award interviews in the Team Pit Areas. Teams are not given scheduled sit down interviews for the Design Award at VEX Worlds.



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## Judges Award

The Judges Award is presented to a team that the Judges determine is deserving of special recognition. Judges consider a number of possible criteria for this award, such as team displays of special attributes, exemplary effort and perseverance at the event, or team accomplishments or endeavors throughout the season that may not fit under existing awards, but are nonetheless deserving of special recognition.

## Robot Performance Awards

The **Teamwork Champion Award** is presented to each of the two teams on the winning alliance in the Teamwork Challenge Finals Matches.

The **Robot Skills Champion Award** is presented to the team with the highest combined Programming Skills Challenge and Driving Skills Challenge score. A team's combined score will be determined by adding their highest Programming Skills Challenge score and their highest Driving Skills Challenge score at a single event. Teams participating in only one of the two skills challenges will receive a zero score in the challenge in which they did not participate. Some events may choose not to offer this award.

The **Teamwork Challenge Finalists Award** is presented to each of two teams on the second place alliance in the Teamwork Challenge Finals Matches. Some events may not choose to give this award.

The **Teamwork Challenge 2<sup>nd</sup> Place Award** is presented to each of two teams on the second place alliance in the Teamwork Challenge Finals Matches at VEX Worlds.

The **Teamwork Challenge 3<sup>rd</sup> Place Award** is presented to each of two teams on the third place alliance in the Teamwork Challenge Finals Matches at VEX Worlds.

The **Robot Skills 2<sup>nd</sup> Place Award** is presented to the team with the second highest combined Programming and Driving Skills Challenge score. Some events may choose not to offer this award.

The **Robot Skills 3<sup>rd</sup> Place Award** is presented to the team with the third highest combined Programming and Driving Skills Challenge score. Typically, only VEX IQ Worlds will offer this award.

## Technical Judged Awards

These awards are Judged using the VEX IQ Challenge Awards Scoring Sheet, which is in the judges guide at: [roboticseducation.org/competition-teams/vex-iq-challenge/](http://roboticseducation.org/competition-teams/vex-iq-challenge/).

The **Amaze Award** is presented to a team that has built an amazing, high-scoring robot that clearly demonstrates overall quality.

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Key criteria:

- Robot design is consistently high scoring
- Robot demonstrates a solid mechanical design and is robustly constructed to fulfill its designed task
- Robot programming is consistently effective and successful
- Students understand and explain how they worked together to develop their robot

The **Build Award** is presented to a team that has built a well-crafted and constructed robot.

Key criteria:

- Robot construction is of high quality; robust, clean, and effective use of materials
- Robot efficiently uses mechanical and electronic components
- Robot is designed with a clear dedication to safety and attention to detail
- Robot demonstrates reliability on the field and holds up under competition conditions
- Students understand and explain how they worked together to develop their robot

The **Create Award** is presented to the team whose robot design incorporates a creative engineering solution to the design challenges of the season’s game.

Key criteria:

- Robot has a well-crafted, unique design solution, which demonstrates creative thinking
- Team has demonstrated a highly creative design process and methodology
- Team has committed to ambitious and creative approaches to solving the game challenge
- Students understand and explain how they worked together to develop their robot

The **Think Award** is presented to a team that has developed and effectively used quality program as part of their strategy to solve the game challenge. Teams must participate in the Autonomous skills challenge to be eligible for the Think award.

Key criteria:

- All programming is cleanly written, well documented, and easy to understand
- Team has explained a clear programming strategy to solve the game challenge
- Team demonstrates their programming management process, including version history
- Students understand and are able to explain how they worked together to develop their robot programming

## Other Judged Awards

The **Energy Award** is presented to a team that displays a high level of enthusiasm and passion at the event. VEX Worlds uses ballots for this award.



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Key criteria:

- Team maintains a high level of excitement and energy throughout the event
- Team’s passion for robotics enriches the event experience for others
- Students demonstrate teamwork and effective communication skills

The **Inspire Award** is presented to a team that has inspired judges with their approach to the VEX IQ program. Judges consider a number of possible criteria for this award. This award will most likely only be offered at VEX Worlds.

The VEX IQ **Innovate Award** recognizes a team’s ability to implement an effective and efficient robot design process. Their Engineering Notebook and discussion with the Judges will demonstrate the team’s ability to produce a quality robot with minimal adult assistance. Only teams that submit Engineering Notebooks are eligible for the Innovate Award. This award will be given by judges to a top contender for the Design Award. This award will probably only be given at worlds.

Key criteria:

- Engineering Notebook is a clear, complete, and organized document of the robot design process.
- Team demonstrates effective management of skills, time, and material resources.
- Students understand and explain how they developed an effective game strategy and robot design.
- Students demonstrate teamwork and effective communication skills.

The **Sportsmanship Award** is presented to a team that has earned the respect and admiration of the volunteers and other teams at the event. VEX Worlds uses ballots for this award.

Key criteria:

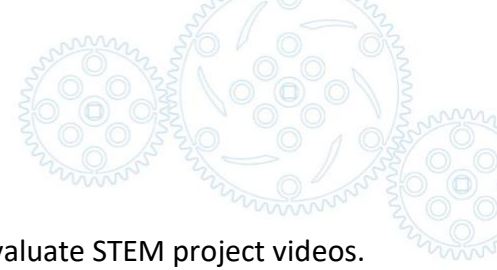
- Team is courteous, helpful, and respectful to everyone at the event, on and off the field
- Team interacts with others on the game field in the spirit of friendly collaboration
- Team demonstrates respect and willingness to help event staff, other teams, and spectators
- Team demonstrates excitement and enthusiasm throughout the event

## STEM Research Project Award

**The STEM Research Project is no longer a requirement for Excellence in the VEX IQ Program and is now a video submission. It is optional at local events. The event partner will determine if the award is given at an event.**

Teams should check the Awards tab for each event to see if the STEM project is offered at the event. Event partners who choose to offer the STEM Research Project Award will post instructions for submitting the URL for STEM Research Project Videos.

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The STEM Project rubric may be found in the judges guide and will be used to evaluate STEM project videos.

The **STEM (Science, Technology, Engineering, and Mathematics) Research Project Award** is presented to the team that shares the most effective STEM Research Project video submission. This video effectively demonstrates the students' significant depth of understanding of their topic and research findings. The video will also highlight the students' work in sharing what they learned in an effective format.

Key criteria:

- Identifies a challenge topic of interest that relates to the STEM theme for the season
- Completes research and collects evidence using reliable sources
- Demonstrates a well-organized and documented process to study and explain the research findings
- Describes how the research findings were applied to develop and test the solution
- Shares the solution in an effective and creative presentation
- Students demonstrate an understanding of the entire research process
- Students demonstrate teamwork and effective communication skills

Additional details on the STEM Research Project, are available at: [roboticseducation.org/competition-teams/vex-iq-challenge/](https://roboticseducation.org/competition-teams/vex-iq-challenge/).

### STEM Research Project Award at State/Provincial/National Championships

Teams will forward online video submission information to the event partner at least two weeks prior to the State/Provincial/National Championship. This will include your team number and the YouTube URL to the video. Event Partners will post instructions for submitting URLs as part of the event posting on Robotevents.com. Instructions on posting videos is available on the STEM Project Presentation for this year.

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## STEM Research Project Award at VEX Worlds

Eligible teams will submit an online video submission through the VEX Awards system [www.robotevents.com/vexawards](http://www.robotevents.com/vexawards). Teams must have been Awarded the STEM Research Project Award or the Excellence Award at a State/Provincial/National Championship event to be eligible to submit an online video presentation for VEX Worlds. Teams that are eligible to submit STEM Project Videos for VEX Worlds will be notified one month prior to Worlds. A list of eligible teams will also be posted on Robotevents.com.

## Online Challenge Awards

The VEX IQ online challenge rules and judging criteria are located on the Online Challenge which is found at: <http://challenges.robotevents.com/>. Online challenge submissions are due in January.

## Individual Awards

The **Mentor of the Year** award is given to a mentor or engineer who is not a teacher and who has helped students achieve goals that were seemingly out of reach. This individual is a role model, a leader and an extraordinary mentor who helps show students new ways to expand their knowledge and solve problems in the worlds of STEM.

The **Teacher of the Year** Award is presented to a teacher who shows true leadership and dedication to his or her group of students. The winner of this award continually exceeds expectations to ensure a safe, enjoyable and educational experience for all students.

The **Volunteer of the Year** Award is presented to an event volunteer who demonstrates a commitment and devotion to their community, putting in many hours of hard work with persistence and passion to help make events happen.

## STEM Hall of Fame – Inspiration All-Stars

Students participating in VEX Competitions encounter **Inspiration All-Stars** each and every day. Some are teachers and mentors who work with individual teams to make a robotics program work. Others are volunteers who help make events happen. They all are devoted individuals who put in many hours of hard work with persistence and passion. Whether these individuals help students achieve goals that may have seemed out of reach or provided opportunities for students to expand their knowledge and solve problems in the worlds of STEM, these all-stars show true leadership and dedication to the VEX Competition experience.

Students, parents, and volunteers will nominate Inspiration All-Stars through a written submission. To be considered for this award at the VEX Worlds, teams must pre-submit a 500-word essay through the VEX Worlds awards page at [robotevents.com/vexawards/](http://robotevents.com/vexawards/), which will be available from **September 1, 2018, until December 31, 2018**. Late submittals will not be accepted for this award.