

VEX IQ Challenge - Nelson Team Grants

Frequently Asked Questions

1. What are Nelson Team Grants?

Nelson Team Grants seek to enable Title I and STEM-focused elementary and middle schools (grades 4-8) in the Los Angeles area (especially LAUSD) to start robotics teams to participate in the VEX IQ Challenge. Our goal is to motivate students to pursue STEM degrees and careers. We provide schools with the resources needed to inspire the next generation of scientists and engineers.

2. Where can I find more information about Nelson Team Grants?

Information and the application are available online at the **Nelson Team Grants** website:

<http://larobotics.org/NelsonTeamGrants.html>.

1. What information is available at the Nelson Team Grant website?

a. Nelson Team Grants

- 1) Introduction
- 2) Team Grants for Returning Schools
- 3) Team Grants for New Schools
- 4) Robotics Equipment Provided for Team Grants
- 5) Team Grant Process
- 6) 2022-2023 LAUSD VEX IQ Leagues
- 7) Summary by Year
- 8) Nelson Team Grant Agreement
- 9) **2022 Nelson Team Grant Application**
 - a) **Includes all sections above**
- 10) Video about one of the first Nelson Team Grant Teams

b. Recipient Schools

- 1) LAUSD Local District Maps and Lists of Schools
 - a) Maps by Local District
 - b) Lists of schools by Community of Schools within Local Districts
- 2) Nelson Team Grant Recipient Schools by Year

c. LAUSD VEX IQ Leagues and Workshops by Year

d. Coach Training Handouts

- 1) Introductory Videos
- 2) Team Documents
- 3) 2022-2023 VEX IQ Challenge Slapshot
 - a) Game Documents and Videos

e. Sponsors

- 1) Primary Sponsors
 - a) **Nelson Team Grants** are sponsored by Anita L. Nelson, MD and LeRoy E. Nelson.
- 2) Additional Sponsors

3. What is the Nelson Team Grant Agreement, which is included in the application?

If my school receives a **Nelson Team Grant**, I understand that my school will have use of the provided robotics equipment for as long as my team fulfills the conditions listed below. A new VEX IQ Challenge season starts after the VEX Robotics World Championships at the end of April each year.

- The coaches/mentors and administration at my school support creating a sustainable VEX IQ Challenge program.
- The robotics equipment will be stored in a safe, clean location.
- The robotics equipment will be used for official VEX IQ Challenge events or activities each season.
- My team(s) will complete and pay team registration each season (paid by the grant the first year).
- My team(s) will register for and will attend at least one official event each season.
- My team(s) will participate in post-season surveys to assure that the above conditions have been fulfilled.

In the future, if my team(s) no longer fulfill(s) the conditions listed above, I will return the robotics equipment so that it can be made available to another school.

4. What qualifications are needed to coach a VEX IQ Challenge team?

Most coaches of school teams are teachers, but administrators, other school staff members, parents, or community members can also be coaches. All coaches should be background checked, be interested in learning about robotics and programming, and enjoy working with students to solve problems. Coaches need to have access to, be comfortable using, and know how to get software installed on one or more computers (Windows, Mac, Chromebook, or Tablet) that can be used by students to program their robots. Prior knowledge of robotics or programming are not required.

5. How big is a team?

The minimum team size is 2 students. There is no maximum team size, but most teams have 2-12 students. The optimum team size for a new coach with a new team is 3-6 students. The coach and students of a small new team can have fun learning how to design, build, document, and drive the robot. A team with 6-12 students can also learn how to program the robot and/or work on Online Challenges such as the STEM Research Project. Supervising these extra activities with a new team would make the new coach's job more challenging. The coach's job is less challenging if some of the students are high functioning. Teams that start in the Spring can start small in the Spring and then add more students and more activities in the Fall. After the first year, the optimum team size is 5-10 students. Teams of this size should be able to participate in all aspects of the program.

6. Are all members of the competition team competing at the same time together or split up?

One or two drivers participate in each teamwork or skills match. You can have different drivers in different matches. Each team should have three or four Teamwork Qualifying Matches at each of three qualifying sessions and up to three Driving Skills Matches, up to three Programming Skills Matches, and a Teamwork Finals Match at the final league session. Team members who are not driving can cheer for their team.

7. What if my team has more students than we can bring to a competition?

You could have different students participate in each qualifying session and then have the students who contributed the most and/or who drove the best represent the team in the Robot Skills Matches and/or Teamwork Finals Matches at the Championship Session.

8. What student grade levels can participate on teams?

VEX IQ Challenge is recommended for students in grades 4-8 and for high functioning students in grade 3. Most LAUSD students in grade 9 are also eligible to participate based on age. The VEX IQ robot is recommended for students of ages 8 and up.

9. What determines whether a team is Elementary or Middle School?

This is determined by definitions of **Student** and **Team** in the Game Manual. Here are the definitions from Version 0.1 of the Game Manual released May 10, 2022:

Student - Anyone born after May 1, 2007 (i.e., who will be 15 or younger at VEX Worlds 2023). Eligibility may also be granted based on a disability that has delayed education by at least one year. *Students* are the individuals who design, build, repair, and program the *Robot* with minimal *Adult* assistance.

- **Elementary School Student** - Any *Student* born after May 1, 2010 (i.e., who will be 12 or younger at VEX Worlds 2023). *Elementary School Students* may "play up" and compete as a *Middle School Student*.
- **Middle School Student** - Any eligible *Student* who is not an *Elementary School Student*.

Team- Two or more *Students* make up a *Team*. A *Team* is classified as an *Elementary School Team* if all members are *Elementary School Students*. A *Team* is classified as a *Middle School Team* if any members are *Middle School Students*, or if the *Team* is made up of *Elementary School Students* who declare themselves as "Playing Up" as *Middle School Students* by registering their *Team* as a *Middle School Team*.

Once declared and playing as a *Middle School Team*, that *Team* may not change back to an *Elementary School Team* for the remainder of the season. *Teams* may be associated with schools, community / youth organizations, or a group of neighborhood *Students*.

- **Builder** - The *Student(s)* on the team who assemble(s) the *Robot*. An *Adult* cannot be a *Builder* on a *Team*. *Adults* are permitted to teach the *Builder(s)* associated concepts, but may never work on the *Robot* without the *Builder(s)* present and actively participating.
- **Designer** - The *Student(s)* on the *Team* who design(s) the *Robot* to be built for competition. An *Adult* cannot be a *Designer* on a *Team*. *Adults* are permitted to teach the *Designer(s)* associated concepts, but may never work on the design of the *Robot* without the *Designer(s)* present and actively participating.
- **Programmer** - The *Student(s)* on the *Team* who write(s) the computer code that is downloaded onto the *Robot*. An *Adult* cannot be a *Programmer* on a *Team*. *Adults* are permitted to teach the *Programmer(s)* associated concepts, but may never work on the code that goes on the *Robot* without the *Programmer(s)* present and actively participating.

Basing eligibility on age rather than grade level helps to level the playing field internationally. Most LAUSD students in grade 6 are eligible to compete as Elementary School Students, and most LAUSD students in grade 9 are eligible to compete as Middle School students.

10. How does a League work?

Most leagues will begin with an orientation session for new coaches in September or early October. Teams will typically participate in four league sessions held every three school weeks from October to January. League sessions are usually held after school at host schools reasonably close to participating schools. The first three sessions will be Qualifying Sessions, and the final session will be the Championship Session. At the discretion of the Event Partner, the first Qualifying Session may begin with one Teamwork Practice Match for each team followed by three Teamwork Qualifying Matches for each team. Other Qualifying Sessions will offer four Teamwork Qualifying Matches for each team. Remote Judging will occur during the week before

the final Championship Session (see next question). The Championship Session will offer each team up to six Robot Skills Matches followed by one Teamwork Finals Match and Awards. Participating teams must pay a \$155 league registration fee, preferably by check payable to the league host school, for all league sessions. This fee covers the costs of equipment and facilities for league hosts.

11. What happens if COVID-19 forces us to cancel in-person League events?

If teams are allowed meet in person but league events can't be held in person indoors, we will explore the possibility of holding the remaining league sessions in person outdoors. If league events can't be held in person indoors or outdoors, then we will try to convert the remaining league sessions to Live Remote Tournaments. Skills events must be held in person, but it is possible to schedule one team at a time, to hold events outdoors, and to schedule events on weekends in January for better light and temperatures.

If teams are not allowed to meet in person, then teams will be encouraged to try **VEXcode VR** and to compete with the new **VIQC Virtual Skills in VEXcode IQ**:
<https://www.vexrobotics.com/get-started/vex-vr-skills>.

12. How does Remote Judging work?

Remote Judging was introduced in the 2020-2021 season to avoid in-person contact between teams and judges. Engineering Notebooks will be stored online in digital format and a link to the Digital Engineering Notebook (DEN) will be submitted with the team's preferred time slots for Remote Judging Interviews one-two weeks prior to the Championship Session. Judges will review DENs using the Engineering Notebook Rubric. Each team will be scheduled for an 8-10 minute Zoom interview with a panel of judges who will use the Team Interview Rubric. Interviews will be scheduled after school or on the weekend during the week prior to the league's Championship Session. Additional details--including requirements for Digital Engineering Notebooks, the Rubrics, and a list of the Questions that the judges will ask during the interview--will be added to the league event posting as they become available, and teams registered for leagues will be notified by email.

13. What is the schedule for League sessions?

Typical agenda for the first three league sessions, the Qualifying Sessions:

3:30-4:00 PM Doors open. Set up
3:30-3:45 PM Volunteers check in
4:00-4:30 PM Teams check in
4:00-4:45 PM Robot Inspection
4:45-5:00 PM Opening Ceremony/Announcements
5:00-7:00 PM Teamwork Practice and Qualifying Matches
7:00-7:30 PM Teams depart. Tear down. Doors close

Typical agenda for the last league session, the Championship Session:

3:30-4:00 PM Doors open. Set up
3:30-3:45 PM Volunteers check in
4:00-4:30 PM Teams check in
4:00-4:45 PM Robot Inspection
4:45-5:00 PM Opening Ceremony/Announcements
4:15-7:00 PM Robot Skills Matches
7:00-7:45 PM Teamwork Finals Matches and Awards
7:45-8:15 PM Teams depart. Tear down. Doors close

14. Does my team need to attend every League session?

No. Teams need to participate in at least 60% of the Teamwork Qualifying Matches to be eligible to participate in the Teamwork Finals Matches, so teams can miss one Qualifying session. If it is not convenient for your team to participate in a league, your team can participate in one or more tournaments instead. Tournaments are typically held on Saturdays between October and mid-February. The event registration fee for each tournament is typically \$75-\$100. To see what events are still available:

- Go to RobotEvents.com
- Select VEX IQ Challenge
- Select your Grade Level
- Select California – South as the Event Region
- Look for events that are Open and that have Spots Open

15. How big is a League?

Leagues need at least 16 teams for the top award winners to qualify for State Championships. Leagues with more than 36 teams could split into two smaller leagues to make match schedules easier to manage, or they could run two matches simultaneously. Leagues should provide two competition fields and two practice fields for up to 24 teams, three competition fields and three practice fields for up to 36 teams, and four competition fields and four practice fields for up to 48 teams. That will allow each team to play up to four matches at each league session. LeRoy will provide fields for all new leagues and for all leagues that need to add additional fields.

16. What forms are required to participate in a league or tournament?

a. REC Foundation Participant Release Form Instructions

<https://www.roboticseducation.org/documents/2018/03/participant-release-form.pdf/>

- All coaches, mentors, and parents of students must complete the online form. Coaches need to provide parents with the EXACT team number and type of program (e.g. Team 12345A, VEX IQ).
- Participant Release Form (English)
<https://waiver.smartwaiver.com/w/5ab2c50d92047/web/>
- Participant Release Form (Spanish)
<https://waiver.smartwaiver.com/w/5f99b690d50ac/web/>
- Any Team Contact can check to see which students have completed Participant Release Forms:
 - Login to RobotEvents.com
 - Click on My Account
 - Click on the Consent Forms button for Registered Teams.

b. LAUSD Field Trips

<https://achieve.lausd.net/Page/2794>

- FIELD TRIP HANDBOOK (REF 2111.0)
 - ATTACHMENTS H-K: PARENT'S OR GUARDIAN'S PERMISSION FOR A FIELD TRIP AND AUTHORIZATION FOR MEDICAL CARE – TRIP SLIP
 - English, Spanish, Korean, Armenian
- REQUEST FOR APPROVAL OF SCHOOL ORGANIZED TRIP FOR STUDENTS
- GUIDELINES ON USE OF PRIVATELY OWNED VEHICLES
- FIELD TRIP CHECKLIST

c. LAUSD Media Release Forms

<https://achieve.lausd.net/Page/4875>

- English, Armenian, Chinese, Korean, Russian, Spanish

17. My school received a Team Welcome Kit. How should we use it?

The VEX IQ Challenge Team Welcome Kit ships in a 3"x9"x12" box that should arrive approximately one week after your team registration is paid. It includes these important items:

- a. **Two VEX IQ Challenge License Plates.** Write your team number on each plate with a marking pen and attach them to opposite sides of your robot before you attend leagues or tournaments. Your robot needs at least one license plate to pass inspection. Paper license plates can be used in an emergency.
- b. **VEX IQ Engineering Notebook (5 Pack).** Have students record their progress designing, building, repairing, programming, and testing their robot. The notebooks include sample entries and suggestions. See the **Robot Design Rubric** for the criteria that will be used to judge the Engineering Notebook for Remote Judging. Paper Engineering Notebooks can be scanned at the end of the season to convert them into Digital Engineering Notebooks.
- c. **VEX IQ Challenge Game Element Kit** (sample game elements). Your team can use these to practice driving the robot until you receive and open the full game kit.

18. My school received VEX IQ robot kit boxes. How should we use them?

Each school that receives a **New Team Award, Additional Team Award, or Additional Teams Award** should receive a VEX IQ Competition Kit consisting of four blue storage bins shipped in two boxes:

- a. **VEX IQ Education Kit (2nd Generation):** two partly-filled blue storage bins, an IQ System Bundle (2nd Generation), and several additional parts in one box. Frequently backordered, so availability is limited.
- b. **VEX IQ Education to Competition Upgrade Kit:** two filled blue storage bins in a second box.

Schools that receive a **New Team Award** or a **Returning Teams Award** will hopefully receive an extra **IQ Robot Battery (Li-Ion, 2000 mAh)**. Unfortunately, no availability date has been announced.

To get your team started, review these online STEM Library documents:

- a. [Get Started with VEX IQ \(2nd generation\)](#)
 - 1) Get ready to use your VEX IQ (2nd generation) Kit
 - 2) Get started building
 - 3) Get started driving
 - 4) Get started coding with VEXcode IQ. [Save this until your students are ready.]
- b. [Naming Your Brain with VEX IQ \(2nd gen\)](#)
- c. [Building Your First Robot with VEX IQ \(2nd gen\)](#). Build the BaseBot.

Start recording team progress in the **Engineering Notebook**. Watch the VEX IQ Challenge game video at: <https://www.roboticseducation.org/teams/vex-iq-competitor/>. Read the **Game Manual** at <https://link.vex.com/docs/2022-2023/viqc-slapshot/GameManual>. The final major Game Manual update is scheduled for the end of August. Choose a strategy to score as many points as possible in a 60-second match. Choose a team name and robot name and update your team information at www.robotevents.com.

For your second robot, the team could build and drive the **Hero Bot** for the current season. Build Instructions for Competition Kits (2nd Generation) and for Super Kits (1st Generation) are posted at: <https://www.vexrobotics.com/iq/downloads/build-instructions>

If Build Instructions for a Hero Bot are not yet available for the current season, your team could choose another robot build as its starting robot. Team members can also search for robot ideas on YouTube and design their own starting robot.

Modify the robot or your strategy as needed to improve performance. Practice driving before each competition.

19. My school received several field boxes. How should we use them?

Each school that receives a **New Team Award** should also receive these VEX IQ Challenge competition supplies:

- a. **VEX IQ Challenge Full Field Perimeter & Tiles** (ships in three large, heavy boxes). It takes a few minutes to assemble or disassemble the field. Be careful not to twist the tiles relative to each other when disassembling the field because the tabs can break off. Push one tile or wall piece down while pushing the adjacent tiles up from below to separate them. The two larger boxes each hold 16 tiles, 10 side wall sections, and 2 corner wall sections. The smaller box holds 16 tiles and 8 side wall sections.
- b. **VEX IQ Challenge Full Field & Game Element Kit**. This box contains the field elements and game elements for this year's VEX IQ Challenge game. Some assembly is required. Expect to spend 4-8 hours building the field elements. Different students can work on different sections of the build instructions simultaneously. If your work surface is smooth, cover it with a towel to prevent small parts from rolling away. Set up the field elements and game elements on the assembled full field to develop and test your game strategy and to practice driving the robot before competitions.

20. How do I access the programming software?

We recommend that teams use **VEXcode IQ Blocks** to program your robot. VEXcode works on Chromebooks, Amazon Fire, Android tablets, iPads, Windows, and Mac. VEXcode's Block-based interface is the perfect platform for those new to coding. Students use a simple drag and drop interface to create functioning projects. Each block's purpose can easily be identified using the visual cues like its shape, color, and label. Students who have used any other Block-based robot programming software can easily switch to **VEXcode**. **VEXcode IQ Blocks** is available for download online at: <https://www.vexrobotics.com/vexcode>. An online, browser-based version of **VEXcode IQ Blocks** is also available online for Google Chrome and Chrome-based Microsoft Edge at: <https://codeiq.vex.com>

For students new to programming, we recommend starting with **VEXcode VR Blocks**, which is available at: <https://www.vexrobotics.com/vexcode-vr>. This online, browser-based platform allows students to experience all features of the VEXcode platform with a virtualized robot. No physical robot is needed! Students can learn how to program a robot at home or at school on computers or on tablets. Students can complete activities on different virtual Playgrounds, each of which is specifically designed to highlight key Computer Science skills and concepts. The full **VEX Computer Science Level 1 – Blocks Course** takes about 18 hours to complete. It is available at: <https://education.vex.com/stemlabs/cs>.

21. How can I view the match scores and rankings for my team?

During most league sessions, match scores are uploaded to the league event on RobotEvents.com and cumulative rankings are updated after each match. After all league sessions, final results and cumulative rankings are uploaded to the league event on RobotEvents.com. After the final session, skills rankings, teamwork finals results, and awards are also uploaded to the league event on RobotEvents.com. Navigate to a league event on RobotEvents.com by name or by using one of these links (when available):

-- League links will be available after leagues are announced in September.

These links will also be available at <http://larobotics.org/NTGLEagues.html>.

After you find your event, click on **Results** and then **Division 1** to see **Match Results** for the most recent session and cumulative **Teamwork Rankings**.

You can also view the team list, team match schedule, team match results, event match schedule, event match results, cumulative rankings, skills results, skills rankings, and awards by downloading the **VEX Via** app to an Android or Apple smartphone or tablet from:

- [VEX Via - Apps on Google Play](#) or
- [VEX Via on the App Store - iTunes - Apple](#)

The Apple version allows you to search for events by name or city and for teams by number, team name or city. Or find events by selecting Nearby Events and then scanning the list for your event by the start date (date of first session). After you find your event or team, click on the star at the top of the screen to add it to the Favorites list for quick access later.

22. Are there any other Apps for VEX IQ Challenge teams?

Download the **VIQC Hub** app to view or search the latest version of the Game Manual, a score calculator, and a match timer:

- [VIQC Hub - Apps on Google Play](#) or
- [VIQC Hub on the App Store - iTunes - Apple](#)

23. What should I do if an old NIMH robot battery won't charge?

When you place a NIMH robot battery in the robot battery charger and plug it in with the power cord to recharge the battery, the charger LED should quickly change to solid red and later change to solid green when the battery is fully charged. If the charger light flashes red, the battery voltage is too low for the charger to recharge it. Try the procedure in the following video to restore the battery:

[How to fix VEX IQ Flashing Light or No Charge Battery Issue](#)

If the robot charger LED still flashes red, the robot battery needs to be replaced.

24. What should I do if I need VEX IQ Technical Support?

Unfortunately, VEX eliminated its resellers in May 2022, so we can no longer take advantage of the superior support provided by iDESIGN Solutions. Email your technical support question to support@vexrobotics.com or call 833-297-6268 for customer & technical support. For competition support, email support@robotevents.com.

25. Can I change the team name or other team information?

Yes, you can make changes to your registered team information whenever you want:

- Log into RobotEvents.com. If you do not see your team, click on **My Account** at the top of the screen.
- Click on the **Edit** button to the right of your team.
- Edit any of the team information fields.
- Scroll to the bottom of the screen and click on the **Save** button.

26. Can I change team contacts?

Yes, you can add, remove, or change team contacts by using this procedure:

- Log into RobotEvents.com. If you do not see your team, click on **My Account** at the top of the screen.
- Click on **My Teams** on the left side of your screen.
- Click on the **Manage Contacts** button to the right of your team.
- Click on the **+ Add Participant** button at the bottom of the screen to add a new contact.
- Click on a **Remove** button at the bottom right of the screen to remove a contact.
- Click on the Primary Contact, Financial Contact or Secondary Contact fields at the top of the screen to select a different contact from the drop-down list.
- Click on the **Save** button.

If you add a new team contact, the system will send an invitation to the new contact to join your team. The new contact will not receive access to your team information until the invitation is accepted and the new contact creates or logs into an account on RobotEvents.com.

27. Can my school add additional robotics teams so more students can participate?

Yes. Schools can have up to 26 teams with the same base team number and different suffix letters. Team registration for the first team costs \$200 each year, and the next three additional teams cost \$150 each year. Teams #5-26 are free. **New Team Awards** and **Additional Team Awards** for new schools include team registration the first year only. Each team also needs to pay for league or tournament event registration each year. League registration is \$155 per team. Each additional team should start with its own VEX IQ Competition Kit (\$649). Fields and Game Kits can be shared by 2-3 teams.

28. How can my school purchase additional kits or parts?

Robot kits and parts can be ordered from VEX Robotics at <https://www.vexrobotics.com/ig/products>. All VEX products ship from Greenville (near Dallas), Texas. Availability of robot kits and some parts has been a problem because of chip shortages and because most parts are manufactured in China and shipped to Greenville through clogged ports.

29. Are any funds available for additional teams or robot equipment?

If your robotics team needs financial assistance, your coach and/or robotics team could try these websites, which other teams have used to raise funds:

- If your school received a **Nelson Team Grant** in a previous year, your school may be eligible for one or two **Additional Teams Awards** each year. See the **Nelson Team Grants** website: <http://larobotics.org/NelsonTeamGrants.html>.
- <https://www.donorschoose.org/>. Teachers should include "STEM" in the project title, because technology companies have occasionally funded all STEM projects in California.
- <https://www.piggybackr.com/>

30. What is the procedure for parts that are broken and/or lost?

Each school is responsible for replacing broken and/or lost parts. LeRoy Nelson and/or Stephen Stein attend most league sessions, and they often have spare brains, batteries, and motors available to debug and/or replace parts that are not working.

31. Do the Robot Kits need to be solely used for students that will be competing?

No. During the VEX IQ league season (August through January), the students on the school's VEX IQ Challenge team should have primary use of the robot kits, but parts can be shared with other teams. The kits can be used for other purposes outside of the league season.

32. How much do schools that received Nelson Team Grants need to pay each year?

Schools that received **New-Team Awards** or **One-Team Awards** are required to register one VEX IQ Challenge team (\$200 registration fee paid by grant the first year) and to register that team for and to attend an official event (typical fee \$155) each year. Schools that receive these awards should plan to spend up to \$155 the first year for event registration and \$540 each subsequent year for team registration (\$200), event registration (\$155), field and game element kit (\$130), and additional robot parts (\$55). These cost estimates do not include shipping and sales tax.

Schools that received **Additional Team Awards, Additional Teams Awards, or Two-Team Awards** are required to register one additional VEX IQ Challenge team (\$150 registration fee, up to the fourth team, paid by grant the first year) for each such award and to register those team for and to attend an official event (typical fee \$155) each year. Schools that receive these awards should plan to spend up to \$155 the first year for event registration and \$360 each subsequent year for team registration (\$150), event registration (\$155), and additional robot parts (\$55) per team. These cost estimates do not include shipping and sales tax.

33. What should coaches of VEX IQ teams do at the start of each season?

- Check to see if your school is eligible for a **Nelson Team Grant**:
<http://larobotics.org/NelsonTeamGrants.html>
- Review **NTG Frequently Asked Questions** (this document):
http://larobotics.org/Documents/NTG_FAQ.pdf
- Review REC Foundation **Team Guide**:
<https://www.roboticseducation.org/documents/2020/07/recf-team-guide.pdf/>
- Renew team registrations in RobotEvents.com
- Pay team registration fees (\$200 for the first team, \$150 for additional teams 2-4)*
- Order the new Game Kit: VIQC Slapshot Full Field & Game Element Kit (\$130+tax):*
<https://www.vexrobotics.com/228-7506.html>.
- Students review the current VEX IQ Challenge **Game Video**:
<https://youtu.be/vF3I8FscrKo>
- Students review the current VEX IQ Challenge **Game Description**:
(when available)
- Students read current VEX IQ Challenge **Game Manual** and develop game strategies:
<https://link.vex.com/docs/2022-2023/viqc-slapshot/GameManual>. Major scheduled updates:
Version 1.0 June 28; Version 2.0, August 2, 2022; Version 3.0 January 31, Version 4.0 April 4, 2023
- Students can learn introductory coding with a virtual robot playing the current game using **VEXcode IQ** and compete in **VIQC Virtual Skills**:
<https://www.vexrobotics.com/get-started/vex-vr-skills>
- Students can learn about awards, the judging process, and rubrics used by judges in the **Judge Guide**:
<https://www.roboticseducation.org/documents/2019/08/judge-guide.pdf/> (not yet updated)
- Advanced students can learn more about coding with a virtual robot using **VEXcode VR**:
<https://www.vexrobotics.com/support/get-started/vexcode-vr>
- Register your teams for a league in September.
 - a. For info on available leagues, see <http://larobotics.org/NTGLEagues.html>.
 - b. Sign up for leagues at <https://www.robotevents.com/>. Select **VEX IQ Challenge**. Type "LAUSD" into the **Event Name** field to see the available leagues.
 - c. Select **Pay Later** as the **Payment Method** at **Checkout**.
- Attend **Coach Training** and/or **League Coach Orientation** workshops in September (to be announced).
 - a. For info on workshops, see <http://larobotics.org/NTGLEagues.html>
 - b. Sign up for workshops at <https://www.robotevents.com/>. Select **Workshops & Camps**. Type "LAUSD" into the **Event Name** field to see the available workshops.

- Students build the Hero Bot as a starting robot for the current game.
<https://www.vexrobotics.com/iq/downloads/build-instructions>
- Complete required forms discussed in a Q&A above
- Bring event registration check payable to the league host in the amount of \$155/team to the first league session, usually in October.

* Paid by Nelson Team Grants the first year

34. How can I get an invoice for a team registration or event registration?

To access an invoice on RobotEvents.com, any Team Contact can

- Login to <https://www.robotevents.com/>
- Click on **My Account** (top of screen)
- Click on **My Orders** (left side)
- Click on **View** (right side) for the Order for which you want an Invoice
- Click on **Invoice** (top right)
- Print or save the Invoice PDF.

35. Should teams do a STEM Research Project?

The STEM Research Project and Presentation is an optional video to be submitted as an Online Challenge at <https://challenges.robotevents.com/>. It is not judged at leagues or tournaments.

I recommend that small teams (2-6 students) skip STEM Research and other Online Challenges their first year. STEM Research is a great optional activity for larger teams and for experienced teams. Designing, building, programming, testing, and documenting a robot introduces students to engineering. The STEM Research Project introduces students to scientific research.

36. What if I have a question that is not answered here?

Contact LeRoy Nelson via email at LeRoy@LARobotics.org or call him any day between 10 AM and 9 PM at 310-529-4637.

Revised June 24, 2022