

TSA State Advisor's Guide

Section 1. PREPARATION FOR AN EVENT

1.1. REGISTRATION SYSTEM

Create a TSA VEX Robotics Competition event for your state conference on RobotEvents.com. To assist, VEX Robotics, Inc. offers a free event registration system that automatically takes care of all of registration details for you. This includes a built-in shopping cart for charging the team fee to enter the event.

Once the system is set up, you have full visibility of registrations, including contact information and all payment information.

To create an event at RobotEvents.com, there are two options. The VEX Education Support representative can complete the set-up, or follow the instructions below to do it yourself.

Request access from your VEX Education Support Representative at www.vexrobotics.com/contact

- Login to the administrative events site at robotevents.com
 - Select "Create New Event"
 - Fill in the form and click on SUBMIT
- (Step by step directions are available for download, as well.)

Once an event is created, teams can register and team tracking becomes available.

1.2. TEAM REGISTRATION

Each TSA VEX team should:

1. Register as an official VEX team
 - Browse to RobotEvents.com
 - Create a free account to gain access
 - Register as an official VEX team

(\$75 for the first team, \$25 for each additional team from the same school)

2. Register the team for the TSA event (and any others they would like to attend)
 - Browse to RobotEvents.com
 - Locate the event
 - Fill in the registration form

NOTE: Teams must first register as an official VEX team. Once registered, teams may register for any VEX or TSA VEX events they wish.



The screenshot shows the RobotEvents.com website. The header includes the site name, a search bar, and navigation links. The main content area is titled "TSA VEX Robotics Competition" and provides information about the competition, including registration fees and a registration form. The footer contains copyright information and a disclaimer.



1.3. EQUIPMENT

The equipment needed to run an event is minimal. Use your local VEX reseller to help you acquire the necessary supplies. The reseller can help you organize and run your event, as well as provide local support to your teams. Find your local reseller at www.vexrobotics.com/vex-resellers. Supplies also can be purchased directly online at: www.vexrobotics.com/tsa/

Equipment checklist:

- Field(s) and field elements (balls)– multiple fields may be needed depending on the size of the event
 - Fields are available for purchase at www.vexrobotics.com/tsa/
 - Plan on one (1) field set per approximately twenty (20) teams.
 - Extra Radio Frequency Crystals available from www.vexrobotics.com/tsa/
 - Two (2) crystal pairs required per field
 - optional: four (4) crystal pairs per field (two for the current match –and two for queued teams)
- Stop watch or timer to time the 2:00 minute rounds
- Laptop for entering scores
- Scoring software “VEX Tournament Manager Express” (downloaded from www.vexrobotics.com/tsa/)
- Clipboards for scoring sheets (1/2 size clipboards work best)
- Pens for referees to record match scores
- Tape measure to inspect robot heights
- Power outlets for battery charging
- Whistle or noise maker to start and stop matches
- (Optional) Microphone and PA system for a game announcer doing play by play.(This is an exciting game; announcing should be heard over the crowd noise!
- (Optional) Video projector and screen with an outlet strip and extension cord for displaying rankings/scores

Teams should bring the following items to the event:

- Robot and transmitter
- Tether cords (robots must be tethered when not in a match)
- Batteries and chargers (and spare batteries)
- Power bar, extension cord
- Tools and spare parts

1.4. COMPETITION RULES

The competition rules are simple. Download a copy at: www.vexrobotics.com/tsa/. The tournament supervisor and inspector should be VERY familiar with the rules.

To summarize each team tries to get as many balls on the OTHER side of the wall as possible.

| | |
|---|------------|
| Green soccer ball on other side: | 1 point |
| Green soccer ball in vertical goal on other side: | 3 points |
| Orange football on other side | 3 points |
| All balls on other side = “Swept Away”: | ends match |

Balls not entirely within a scoring zone are worth zero points (ex: a ball is one half under the wall)
Balls that leave the field are returned to play by the tournament supervisor/referee.

1.5. VOLUNTEERS (volunteer roles can be combined)

Tournament Supervisor/Referee: This volunteer (or two volunteers) starts and stops matches, and makes sure the game is played by the rules.

Scorekeeper: Teams will score themselves (opposing teams check each other) and then turn the score sheets into the scorekeeper, who will tally them. (The tournament supervisor can take on this job if there is a separate referee.)

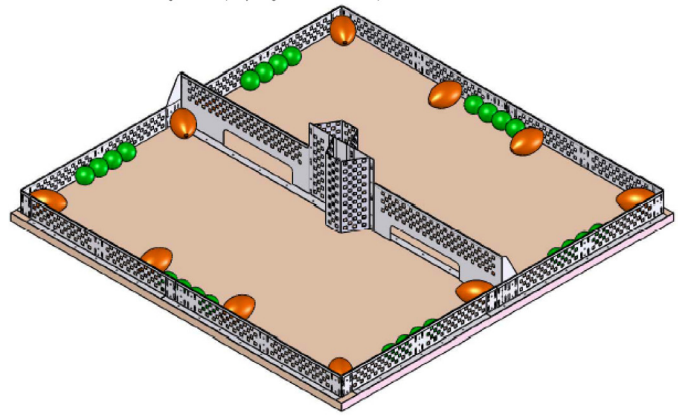
Queuing manger: While the current match is taking place, this volunteer makes sure the NEXT set of teams is ready to go with crystals. This is important for a smooth running event.

Inspector: This volunteer checks robots for rules compliance. Any of the above volunteers, or an additional dedicated person, can take on this job.

1.6. FACILITIES

Reserve an area in which to hold the event. Space is needed for the following:

- an 8' x 8' field, plus about 4' around the field. This equals a 12' x 12' area for each field.
- a scoring table
- the "pits," where teams store and maintain their robots (usually one 2' x 6' table per team)
- spectators (This is a spectator event. Allow room if/when you can.)
- projector and screen (optional)



1.7. COMMUNICATION

Keep teams informed prior to an event. Send them periodic e-mails with helpful hints, reminders of what to bring, reminders about the rules, etc. Ask yourself – "What would I like to know if I were on a team?" and send it to them!

Section 2: EXECUTION OF THE GAME ON EVENT DAY

2.1. ROBOT INSPECTION

The rules for *Swept Away* require each robot to be examined to ensure that builders have followed the rules for the robot. These technical requirements can be found in the *Swept Away* game manual posted at www.vexrobotics.com/tsa/.

Inspection is simple, and most teams pass on the first try. The inspector should be an adult who has taken the time to become familiar the rules and with VEX components. Inspectors should use the TSA VEX Robotics Competition Robot Inspection Checklist, which is available online at www.vexrobotics.com/tsa/.

Inspecting a robot takes a few minutes; allow enough time in the event schedule for each team to be inspected. If there are more than a dozen or so robots, enlist an assistant inspector to help the work proceed more quickly. The inspection process should give precedence to those robots scheduled for early matches; make sure the inspector has a copy of the match schedule.



A typical inspection routine is:

- Teams queue up for inspection.
- The inspector examines each robot, filling out the Robot Inspection Checklist.
- If the robot being inspected has issues that need to be corrected, the inspector will tell the team the robot's deficiencies and what must be done to fix them. After correcting any deficiencies, the team will resubmit its robot for inspection.
- When a robot passes inspection, it should be marked as "passed." This can be done with a unique sticker (colored dots or cartoon figure stickers from an office supply store), or by looping a colored wire tie through the robot's frame. (Note: For the wire tie method, do not use a VEX wire tie, as teams would be able to "self-mark" their robots!). The "passed" status should also be recorded on paper or a marker board. Especially at larger tournaments, it is helpful to write every attending team number on a dry-marker board or piece of poster paper, and then either erase or mark-out the numbers of teams that have passed inspection. Teams, coaches, and event workers may then easily see which teams still need to complete inspection.

After this inspection, the inspector should continue to be available for robots needing re-inspection. Following any inspection responsibilities, the inspector should be free for other volunteer roles.

2.2. TEAM MEETING

The team meeting is the primary means of organizing teams for the competition. At this meeting, provide the teams with all the information they will need to make their day go smoothly. The team meeting format and important meeting topics are below.

- Gather all teams, or team representatives, in one location.
- Introduce key event personnel and explain their roles
 - Tournament supervisor: "The tournament supervisor is responsible for the overall management of the event."
 - Referee: "The referee is responsible for enforcing all game rules on the field of play."
 - Inspector: "The inspector is responsible for ensuring that all robots are constructed in a rule compliant fashion. The inspector interviews each team as part of the inspection process."
 - Queuing manager: "The queuing manager is responsible for ensuring that teams are on time for their matches; the queuing manager also distributes crystals to each team. Teams must check in with the queuing manager prior to each match."
 - Scorekeeper: "After scoring each match, teams must turn in their scoresheets to the scorekeeper, who will enter the results into the tournament database."

2.2. TEAM MEETING Continued

- Review the schedule for the day
 - Schedules vary from event to event depending on the time allotted for the competition. Be sure to let teams know:
 - how much time they have to complete the inspection process
 - the number of qualifications matches in which they will participate
 - the amount of time allotted between matches.
 - the time period of any scheduled breaks
 - other scheduled items not related to the TSA VEX event
- Remind teams that robots must be inspected before participation in a match
 - “The *Swept Away* game manual provides specific rules for robot construction. Robots will be inspected prior to competition to ensure compliance with these rules. Teams whose robots have not passed inspection before a given match will not be allowed to compete and the opponent will play the match unopposed.”
- Make sure teams understand the queuing process and crystal management
 - “Teams should be in the queue when their match is two matches away. For example, a team scheduled to play in Match #7, must be in line once Match #5 begins. In the queue, teams will be given competition crystals to use during their match. Teams return these crystals immediately following their match. Teams not in a match, should never use crystals; any robots being operated outside of matches, must be run on a tether.”
- Review key rules and scoring
 - “Soccer balls on the other side of the field are worth 1 point. Soccer balls in the goals are worth 3 points. Footballs on the other side of the field are worth 3 points.”
 - “If all the balls in a game end up on one side of the field, that match is instantly deemed over, as the team with all the balls on its side of the field has been “swept away””
 - “Balls that are not entirely on either side of the field are worth no points to either team.”
 - “Balls that leave the field of play will be returned to the field immediately by the referee.”
 - “Competing robots must measure less than 12” tall in order for the match to be started. Robots may expand beyond this height once the match has begun.”
- Walk through the qualifying and elimination rounds
 - “Teams will play a series of qualifying matches and will be ranked based on their performance in these rounds. First, teams are ranked according to the number of wins they accumulate during the qualifying matches. **If teams are tied on wins, the tie will be broken based on how many tied matches they had (this needs to be clarified!).** Should teams still be tied, they will be ranked based on their highest match score. If teams have identical match scores, they will play a sudden death tiebreaker match.”
 - “The top ranked teams will move on to the elimination rounds, in which they will play in a best two out of three series in order to determine a winner.”
- Explain the scoring cards
 - “Teams are responsible for tallying their opponent’s score for each match and recording that score on a score card. Each team will score its own side of the field without touching any robots or balls. Fill in each of the three boxes on the score card. Your opponents will double check the score card. Any conflicts will require a final ruling by the tournament supervisor. The score card is considered complete only when both teams have signed it, or the tournament manager has signed it.”
- Finish with a brief Question & Answer period



2.3. QUEUING

Queuing is the process of making sure robots and teams are ready for each match. The queuing manager oversees three sets of teams: teams on the field, teams "on deck" to play next, and teams that should be queuing up for the match after that. With an average gap of 2-3 minutes between the end of one match and the beginning of another, teams in the third position will have only 6-10 minutes before their match. By stacking one set of teams on the field and two teams waiting, the queuing manager can address the inevitable problems of wandering teams, teams returning to their pits for a new battery, and teams that prepared to participate. The "two match queue" buffer keeps the event moving smoothly.

The queuing manager also distributes crystals to teams for their matches and makes sure that teams return crystals after their matches. Please note:

- Each robot on the field will require a crystal that is at least four channels away from the crystal channel used by its opponent.
- Teams install crystals when they place their robot on the field.
- Immediately following their match, teams remove crystals from their robots and pass them to the teams next in line to compete.

2.4. MATCH FLOW

Follow the steps below to run a match. The tournament supervisor calls for the first two teams in the queue and has students place their robots on the field according to the rules.

1. The queuing manager promotes the second on-deck teams to first on-deck, and goes to get the next teams on the schedule. Those teams are now placed in the second on-deck position and are given crystals.
2. The tournament supervisor starts the match by calling a start command (traditionally, "three, two, one, GO!"). The timer begins timing the two-minute match. (The timer can be the tournament supervisor, or another volunteer.) A large clock with a digital readout or sweep second hand - that can be set to count down from two minutes and that is placed within view of the teams competing - is recommended.
3. During the match, the TS watches for rules infractions and places balls that leave the field back on the field, according to the rules. The tournament supervisor may use bystanders as volunteers to replace wayward balls.
4. The tournament supervisor or volunteer timer announces the time remaining periodically. Teams may also request "time," in which case the timer announces the time remaining. If possible, time remaining should be called out every 15 seconds.
5. The tournament supervisor or volunteer timer will call out the last five seconds: "five, four, three, two, one, STOP!"
6. At "STOP," teams will turn their transmitters around and hold them by the handles on the back. This prevents them from accidentally moving their robots while the teams score the match.
7. At the conclusion of a match, teams may not enter the field until the tournament supervisor has given permission. At this point only two team members can go on the field to calculate the score and retrieve their robot.
8. Each team will score its own side of the field **WITHOUT TOUCHING THE ROBOT OR ANY BALLS**. The score will be written on a scorecard. The opposing team will then double check that score and sign or initial the card. Any scoring conflicts will be resolved by the tournament supervisor, whose decision is final. A scorecard is only complete when **BOTH** teams in the match have signed it, **OR** the tournament supervisor has signed it.
9. Once the teams (or the tournament supervisor) have determined that scores are correct, teams may then remove their robots and reset the field for the next teams.
10. The tournament supervisor gathers the score cards and gives them to the scorekeeper to record the match. Because the scorekeeper stands at the side of the field during all matches, the scorekeeper may help the tournament supervisor with managing the scoring process or with other tasks.
11. The scorekeeper enters the results into the VEX Tournament Manager Express software.
12. The field crew returns to Step 1, above.

2.5. SCORING

There are two components to scoring: 1) figuring and recording the results of each match, and 2) turning the raw match results into rankings for the elimination rounds. VEX Tournament Manager Express is a software tool that was created to help automate these processes.

2.6. VEX TOURNAMENT MANAGER EXPRESS

VEX Tournament Manager Express is a software program that :

- schedules matches
- inputs and calculates scores
- tracks standings

For more information visit www.vexrobotics.com/tsa/

Section 3. RESOURCES

3.1. TSA VEX ROBOTICS COMPETITION EVENT DOCUMENTS:

All documents are available at www.vexrobotics.com/tsa/

- a. "Swept Away" Game Manual and Field Assembly Guide
- b. TSA VEX Robotics Competition Referee Guide
- c. TSA VEX Robotics Competition Inspector Guide
- d. VEX Tournament Manager Express

3.2. ONLINE VEX RESOURCES:

- a. TSA VEX Robotics Competition forum: www.vexforum.com/tsa/
- b. RobotEvents.com (for event announcements and registration systems)
- c. TSA VEX Robotics Competition support email: tsa@VEXrobotics.com
- d. Contact your local VEX education support representative: www.vexrobotics.com/contact
- e. Find a local VEX reseller: www.vexrobotics.com/vex-resellers/

