Breaking down FLL judging

There are three judging sessions in an FLL tournament: Technical Judging, Core Values Judging, and Project Judging. We're going to break it down for coaches and tell you for each: What it is, How to Prepare, What to Tell Your Team, What Happens During, What Happens After, and Don't Forget!

CORE VALUES JUDGING

What it is: Teamwork! Core Values Judging is all about how you work as a team, what you did together, and how your coach was involved. This judging session is a little different in that only ONE (1) adult coach or mentor can go in with the team and no photos or video recordings are allowed. No one else is allowed to go in the room with the team and the coach.

How to Prepare: You can do teamwork activities with your team. Easy ones are the Human Knot; give the team members 1 minute to line up without talking in one of the following ways: alphabetically or oldest to youngest or by birth date; stand in a circle and count as high as you can without interrupting each other. Google it: there are tons and tons of team building websites out there. You can also ask them questions about challenges and successes they've had during the season, what they think they most improved on, what they learned, what their favorite part was, what their roles on the team are, if they'd had one more week what they would have done, and if there is anything special about their team that the judge wouldn't know otherwise.

What to Tell Your Team: Tell them to relax. Core Values Judging is the easy judging session. The kids are talking about themselves!

What Happens During: The session is twenty minutes. Judges will spend about 15 minutes with each team and reserve about five minutes at the end for the judge to write comments. During the 15 minutes for each team, there is a Core Values activity that should take about five minutes (more or less is allotted depending on the activity) and then about ten minutes of questions directed towards the members of the team. The Core Values activity is designed for the judge to see how the team works together under a high pressure situation. The result of the Core Values activity does not factor into your overall score. The basics of the questions that will be asked can be developed from the list in How to Prepare.

At the very end of the judging session the judge will ask the team to keep the activity they did a secret and to not tell any other teams. This provides a level playing field for all the other teams and ensures the judge hears all the team's brainstorming.

What Happens After: After the team leaves, the judge has about 5 minutes to finish filling out the rubric.

Don't Forget!:
- Make sure all team members participate in answering questions. One of the criteria is that everyone is included and if one person answers all the judges questions or one person doesn't answer any questions, your team will receive a lower score. A good way to practice this is to have some of the more outspoken team members invite the other team members to answer questions i.e. "Hey, _____, you worked the most on that part, why don't you talk about it?"
- A good position for the team to stand in is a U shape. This ensures that all team members can see each other so they don't interrupt each other when answering questions.
- Make sure team members are trying their best to not be fidgety!
- Make sure team members are paying attention to the judge, to each other, and to what is going on in the judging session.
- The coach or adult mentor that goes in is not there to run the session and cannot contribute to

what the kids are saying. He/she is there only as an observer. The judge wants to know what the kids have learned and hear about their experiences from them.
- Thank the judges when you leave! Being polite will always leave a positive impression with the judges.
- Please make sure your team does not share the activity with anyone else.

PROJECT JUDGING

What it is: This is where the research presentation occurs and the kids talk about their research, solution, and the reasoning behind the solution. This judging session is open to anyone. Parents, siblings, grandparents - everyone is invited. Pictures, video, and audio recordings are allowed, but please make sure that photographers and videographers are not distracting the kids or getting in the way of the judges or between the kids and the judges. Coaches should remind the audience of this before entering the room.

How to Prepare: Make sure your team is rehearsed and ready to go both leading up to tournament and on tournament day. You can ask the team questions about their sources, why they chose to do their presentation a certain way, why and how their solution is innovative, how they came up with their solution, how it makes a difference, what the cost is, who they shared their solution with, and how they brainstormed problems and solution. Have your team run through their presentation in several different locations to make sure they can adjust to the space they have at competition. Usually judging is in a classroom but there is no way to know ahead of time. I've heard of teams that have run through presentations in weird places just to see how they adapt: in bathrooms, in stairwells, in front of tables, behind tables - all sorts of places. If possible, run through the presentation on tournament day before the judging session as a refresher.

What to Tell Your Team: Tell them to relax. This is the scary judging session for some kids, and public speaking can be intimidating. Reassure them that they've done the research, know the information, have rehearsed, and know what they're doing. The judges are nice people too – they're trying to help the team succeed and show them how they can improve.

When you are getting ready to enter the judging session, make sure all of your props are organized and that everyone is lined up in the correct order. You have 5 minutes to present and that usually includes the time it takes to set up.

What Happens During: Teams have five minutes to present their problem and solution. After the presentation, there are about ten minutes of questions. The basic questions can be determined from the list in How to Prepare.

What Happens After: The judge will take a few minutes and finish the rubric. Teams are finished with the project for the day!

Don't Forget!:
- It's okay for the kids to be nervous! Calm them down and make sure they know they're prepared.
- Remember the U-shape! For the same reasons during the question and answer period as all the other ones, it's a great way to include everyone and for the team members to be able to see each other.
- The research part of FLL is just as important as the robot portion. It is weighted the same amount as technical judging.

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TECHNICAL JUDGING

What it is: This is where the kids get to show off their robots and programs, run their missions, and explain their team's strategy to the judges. This happens in a quiet room with a competition table and field set up. Usually at least two judges are present. The goal of this judging session is to explain your team's mission strategy, robot design and improvement process, the mechanical structure of your robot and any attachments it uses, and how you programmed your robot to ensure consistent results, including the use of sensors to know the location of your robot on the field or complete missions. This judging session is open to anyone. Parents, siblings, grandparents - everyone is invited. Pictures, video, and audio recordings are allowed, but please make sure that photographers and videographers are not distracting the kids or getting in the way of or hovering over the judges or getting in between the kids and the judges. Coaches should remind the audience of this before entering the room.

How to Prepare: Rehearse the technical judging presentation at least a couple of times. Have the kids choose who will fill the following roles – driver, assistant, narrator, and two programmers who will leave part way through the technical judging to show their programs to the programming judge. The driver and assistant will run all of the team's missions. The narrator leads the discussion of the robot design, the mission strategy, and how problems with both were resolved, but should not do all of the talking. The best way to avoid this is to have specific things that each team member at the table can talk about. This is where anyone involved in building the robot, building attachments, building a jig, testing the robot, or making adjustments or corrections to the robot or attachments gets to explain their role. Rehearse this with them so that it comes out naturally and they have some idea of how to explain what they did and what they learned.

Programmers: Prior to the judging session, have all the programs you are going to show the judge loaded on one computer. Boot up the computer, start Mindstorms and open all the programs in the order you want to talk about them. You could cover the simplest programs first, or explain all of your my Blocks first, or start with the most complicated program to make sure there is time for the programming judge to see that one. Your team can choose the most effective way to show what your team produced. You can also ask the programming judge what he/she wants to see first.

The rest of the team: Prior to the judging session, make sure you have your robot and all attachments that you use to complete missions. If you have interesting attachments that your team built but didn't end up using, you can bring them to show the judges if there is time. If you have an engineering notebook or pictures of the design process or the stages your robot went through bring those along too.

When you are getting ready to enter the judging session, remind all of the kids when they go in to stand around the table in a U shape, with the driver and assistant near Base and the programmers near the cart so that they can easily get to the laptop.

What to Tell Your Team: Tell them to relax.   This is a chance for the team to show off what they created this season. You get to explain what worked, what you had to improve, why you chose the missions you run, and how the robot was programmed. The judges want to ensure that the kids did all the work, so they will ask lots of 'how' and 'why' questions and even offer suggestions about how you could improve something or do something differently.

What Happens During: Teams have 15 minutes in technical judging. When you enter the room, fill in around the table in a U shape so that you can all see each other. Usually the judges have the team present their missions for about 5 minutes before splitting off the programmers with the programming

judge. For the next ten minutes, the programmers present their programs to the programming judge and the rest of the team continues to run through their missions and talk about their robot at the table with the technical judge. The programmers should be prepared to take their laptop and go with the programming judge when the judges tell you.

Technical Judging: Upon entering the room, have a couple team members scan the table to make sure everything on the field is setup correctly. If a mission model is out of place or needs to be adjusted, tell the judges and ask if they'd like you to fix it. The driver and assistant will set up the robot and attachments when they enter the room and then continuously run missions while the narrator leads the discussion on why those missions were chosen, why the robot is designed the way it is, what problems the team ran into and how those problems were fixed. The narrator should bring the other kids into the discussion so that everyone has a chance to talk, by saying things like "_____ will explain how we repaired the robot when the motors kept falling off." or "_____ shielded the light sensor because..." The other kids don't have to wait to talk, but should be careful not to talk over the narrator or each other.

If there is time left, you can also demonstrate missions that you created but don't run in competition (maybe because they won't fit in the 2 ½ minute time frame) or that you started but didn't complete, especially if these missions use sensors or anything other than the ordinary move and motor blocks.

If you have an engineering notebook or robot design notes, now is when you bring it out. Once you've demonstrated all of your robot's missions, someone should ask if the judge would like to see your team's engineering notebook/design notes. If you have anything in it that the judges haven't seen yet in technical judging (e.g. a pictorial log of changes made to your robot, hard copies of your programs), point those out. Have the pages you want to show the judge bookmarked so you are not fumbling through it.

Programming Judging: Usually two programmers go off to a corner of the room with their laptop to talk to the programming judge. It's a good idea to practice what the programmers will say to the judges prior to this judging session. If you have more than two programmers, you can select the two who are the most verbal or know the most about the programs, or you can swap kids in and out with the programming judge. However, no more than two kids at a time should be sitting with the programming judge. Swapping may eat up too much of the ten minutes you have allotted, so practice this if you plan on doing it. (We recommend picking two programmers to lessen the distractions to the rest of the team during technical judging.) Programmers will review all of the team's programs with the judge. One of the programmers should explain your team's programming standards –things like how you named your programs, how you kept track of changes, how you communicated changes to other programmers, and how many on your team had the opportunity to program.

As you go through each program, please do not just read your comments! Explain in English (not in technical terms) what is happening with the robot on the field in each program and why you programmed it that way. If you use My Blocks, variables, constants, sensors, loops, switches - explain why and where you use them. If there is a part of a program that you struggled with, point that out and walk the judge through what you did to get it to work successfully.

Once you've covered all of your team's programs, if there was a complicated program you were working on didn't have time to finish, show it to the judge. Programming judges love looking at innovative and challenging code and may just have a suggestion on what you could do next.

Always bring a printout of your programs! We have seen teams come into judging without their laptop or have the laptop start applying updates in the middle of judging. If this happens, you can always go over the printouts of your programs with your judges. If you don't have a printout and something goes wrong

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with your computer, you will not receive a score for this portion of judging.

What Happens After: The judge will take a few minutes and finish the rubric.

Don't Forget!:
- Before you walk into the room, the coach should remind the audience that it's okay to take pictures and video, but that they should stay out of the way so that they don't distract the judges and team members.
- Tell the team that it's okay to be nervous! Remind them that are finally going to get to show and talk about their robot and all the missions their team worked on.
- The judges are volunteers who are there to see what your team did this season. They are friendly people who are spending their weekend talking to kids about robots. Treat them with respect, but don't be afraid of them. They love seeing what kids do to solve the robot game.
- This is the time for your kids to present all of their unique and clever ideas for mission strategy, robot design, and programming. Rehearse technical judging with your team so that the kids are comfortable verbalizing their great ideas. This should be fun!
- Bring a hard copy of your code on the off chance that something goes wrong with your computer.
- Remember the U-shape when standing around the table. It's a great way to make sure that everyone is included in the discussion and to maintain eye contact with your teammates.
- Remind the team not to touch the field elements or play with random LEGOs during technical judging. This is distracting to the team and the judges. You want the judge's full attention while you present all of your creative solutions!
- If you're proud of your current high score in the robot competition, tell the judges what it is.
- Let the judges know what the highest score you have gotten in the robot game is, even if you only attained that score once in a time trial.
- Thank the judges when you are finished!