

***FIRST* LEGO LEAGUE**
2024 – SUBMERGED
JUDGE TRAINING

Greg Viliunas
December 12, 2024



WELCOME AND THANK YOU!

This event cannot happen without YOU

- Thank you for giving up your time
 - Thank you for volunteering
 - Thank you for **Being Awesome**

For You:

Judging at a *FIRST*[®] LEGO[®] League event will be one of those experiences that is life affirming – a day that will make you realize how amazing and talented these young team members are.

This is a day that you will never forget



TRAINING AGENDA

1. Introduction – “*Submerged*”
2. Today’s Tournament Overview
3. Our Teams
4. Our Judges
5. Sample Event Schedule
- 6. The Judging Session**
- 7. Awards**

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1. *FIRST* LEGO LEAGUE 2024 THEME

“SUBMERGED”





Season Theme

“SUBMERGED”

More than 70% of the Earth’s surface is covered by oceans. Explorers throughout history have searched and studied the oceans to understand the impact on our lives.

Society’s interest in the oceans has led to innovations in technology and a greater appreciation for the complex relationship between life on land and under the sea.

There is so much more to learn about marine life, ecosystems, and the effects humans have on ocean health.

This season, your challenge is to dive into a problem faced by people who explore the oceans and propose an innovative solution.

ROBOT MISSIONS



Robot Game

- 15 Autonomous Robot “Missions” that teams can select to challenge in any order.
- 2.5 Minutes to execute their strategy
- Teams score points according to the missions accomplished + “Gracious Professionalism” score
- 3 tries per tournament and their best score counts





Robot Game

+ .

EXAMPLE ROBOT MISSION

02 Shark

The shark was just tagged for research - release it back into its habitat.

Shark Habitat

- If the shark is no longer touching the cave..... **20**
- If the shark is touching the mat and is at least partly in the shark habitat..... **10**

From the FLL
Robot Game Rulebook



ROBOT DESIGN

1. Identify their Robot Mission Strategy

Read the “Robot Game Rulebook.” Develop a strategy to tackle one or more of the 15 robot missions. Identify building and coding resources necessary to accomplish the strategy and seek guidance.

2. Design:

Work collaboratively on designs and develop building and coding skills

3. Create:

Create original base robot and attachments (HW) and code (SW) or improve upon existing designs to accomplish their identified mission strategy.

4. Iterate:

Test and update parts of your robot and/or code to improve your robot’s reliability and repeatability. Update your mission strategy as you learn more to achieve the best repeatable score.

5. Communicate:

Be able to clearly explain the process you followed, and your lessons learned along the way. Demonstrate pride in or enthusiasm for your work.



INNOVATION PROJECT

1. Identify and research a problem related to exploring the oceans:

Read the Project Sparks (A current explorer's problem) to see if one of the these problems interests your team. The Challenge story (Comic Strip showing life under the sea) might also give you some ideas. **You can choose to design a solution for one of the problems listed or do research to identify a different problem.**

2. Design (how you will proceed):

Develop a project plan and a plan to test Ideas. Conduct research to explore existing solutions and determine what challenges are still faced.

3. Create:

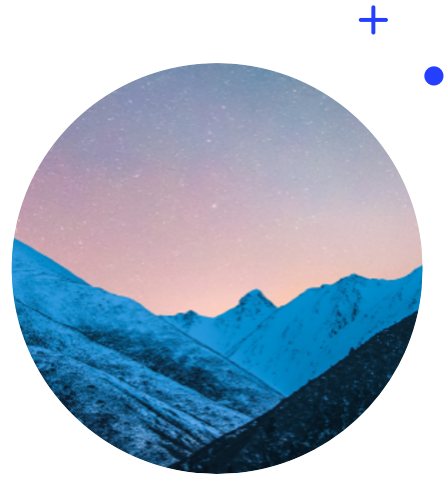
Create something new or improve on an existing solution. Try to use multiple sources.

4. Communicate:

Share your plan and idea with **others**. (No "Expert" needed this year)
Use feedback obtained to iterate and refine your solution

5. Iterate:

Change or update parts of your solution as you learn more from testing your ideas or through sharing and receiving feedback from others.

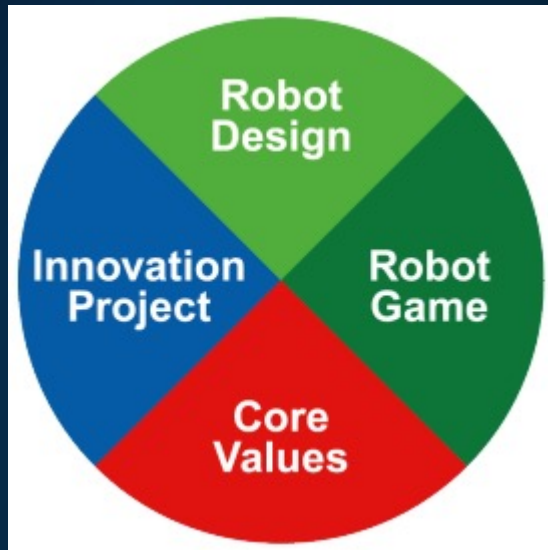


CORE VALUES

Whether doing research for their Innovation Project, designing their robots or working to perfect their robot game strategy, we expect teams to demonstrate the six Core Values that drive this program:

1. **Discovery** - **We explore new skills and ideas**
2. **Innovation** - **We use creativity and persistence to solve problems**
3. **Impact** - **We apply what we learn to improve our world**
4. **Inclusion** - **We respect each other and embrace our differences**
5. **Teamwork** - **We are stronger when we work together**
6. **Fun** - **We enjoy and celebrate what we do**

IT IS ALL IMPORTANT



"Success in all four parts of the competition is like a four-legged chair—leave one out, and the whole thing topples."

– Anonymous

Note: FLL Judges provide Innovation Project, Robot Design and 10/13 of Core Value scores!

Determining the Champion's Rank

$$\text{INNOVATION PROJECT RANK} + \text{COREVALUES RANK} + \text{ROBOTDESIGN RANK} + \text{ROBOT GAME RANK} = \text{CHAMPION'S SCORE}$$

These Champion's Scores are ranked to produce the CHAMPION'S RANK. The lowest score will be the top ranked team.



2. TODAY'S TOURNAMENT

A Brief Overview

30 - MINUTE JUDGING SESSION FLOW





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2024 RUBRICS SESSION FEEDBACK



Judging Session Feedback

Team #	Team Name	Judging Room
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Instructions

This sheet should be used to record written feedback following the Innovation Project presentation and Robot Design explanation. The *FIRST*™ Core Values are the lens through which judges watch the team's presentations and evaluate their progress.

The rubrics and feedback page will be returned to teams at the end of the event.

Great job...	Think about...
Core Values – How did the team demonstrate teamwork, discovery, inclusion, innovation, impact, and fun in their work?	
Innovation Project – How did the team identify and approach solving a problem connected to the season theme?	
Robot Design – How did the team approach solving robot game missions using building and coding?	

Let's take a Quick Look...

If the team is a candidate for one of these awards, please tick the appropriate box. Check with your event organizer which optional awards your event uses.

- Breakthrough Award** A team that made significant progress in their confidence and capability in at least one of the core areas of *FIRST* LEGO League.
- Rising All-Star** A team that the judges notice and expect great things from in the future.
- Motivate** A team that embraces the culture of *FIRST* LEGO League through team building, team spirit, and enthusiasm.



Let's take a Quick Look...

2024 RUBRICS INNOVATION PROJECT



Innovation Project

Team #	Team Name	Judging Room

Instructions

Teams should communicate to the judges their achievement in each of the following criteria. This rubric should be filled out according to the Innovation Project presentation.

Judges are **required** to tick one box on each separate row to indicate the level the team has achieved. If the team **EXCEEDS**, a short comment in the exceeds column is required.

BEGINNING 1	DEVELOPING 2	ACCOMPLISHED 3	EXCEEDS 4
			<i>How has the team exceeded?</i>
IDENTIFY – Team had a clearly defined problem that was well researched.			
<input type="checkbox"/> Unclear definition of the problem	<input type="checkbox"/> Partially clear definition of the problem	<input type="checkbox"/> Clear definition of the problem	<input type="checkbox"/>
<input checked="" type="checkbox"/> Minimal evidence of research	<input checked="" type="checkbox"/> Partial evidence of research from one or more sources	<input checked="" type="checkbox"/> Clear, detailed research from a variety of sources	<input checked="" type="checkbox"/>
DESIGN – Team worked together while creating a project plan and developing their ideas.			
<input type="checkbox"/> Minimal evidence of an effective project plan	<input type="checkbox"/> Partial evidence of an effective project plan	<input type="checkbox"/> Clear evidence of an effective project plan	<input type="checkbox"/>
<input checked="" type="checkbox"/> Minimal evidence that development process involved all team members	<input checked="" type="checkbox"/> Partial evidence that development process involved all team members	<input checked="" type="checkbox"/> Clear evidence that development process involved all team members	<input checked="" type="checkbox"/>
CREATE – Team developed an original idea or built on an existing one with a prototype model/drawing to represent their solution.			
<input checked="" type="checkbox"/> Minimal explanation of innovation in solution	<input checked="" type="checkbox"/> Simple explanation of innovation in solution	<input checked="" type="checkbox"/> Detailed explanation of innovation in solution	<input checked="" type="checkbox"/>
<input type="checkbox"/> Unclear model/drawing that represents the solution	<input type="checkbox"/> Simple model/drawing that represents the solution	<input type="checkbox"/> Detailed model/drawing that represents the solution	<input type="checkbox"/>
ITERATE – Team shared their ideas with others, collected feedback, and included improvements to their solution.			
<input type="checkbox"/> Minimal sharing of their solution with others	<input type="checkbox"/> Solution shared with at least one person/group	<input type="checkbox"/> Solution shared with multiple people/groups	<input type="checkbox"/>
<input type="checkbox"/> Minimal evidence of improvements based on feedback	<input type="checkbox"/> Partial evidence of improvements based on feedback	<input type="checkbox"/> Clear evidence of improvements based on feedback	<input type="checkbox"/>
COMMUNICATE – Team shared an effective presentation of their solution, its impact on others, and celebrated their team's progress.			
<input checked="" type="checkbox"/> Unclear explanation of the solution and its potential impact on others	<input checked="" type="checkbox"/> Partially clear explanation of solution and its potential impact on others	<input checked="" type="checkbox"/> Clear explanation of solution and its potential impact on others	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Presentation shows minimal pride or enthusiasm for their work	<input checked="" type="checkbox"/> Presentation shows partial pride or enthusiasm for their work	<input checked="" type="checkbox"/> Presentation clearly shows pride or enthusiasm for their work	<input checked="" type="checkbox"/>

Criteria on this page with this style of check box count dually toward Innovation Project and Core Values awards rankings



Let's take a Quick Look...

2024 RUBRICS ROBOT DESIGN



Robot Design

Team #	Team Name	Judging Room
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Instructions

Teams should communicate to the judges their achievement in each of the following criteria. This rubric should be filled out according to the Robot Design explanation.

Judges are **required** to tick one box on each separate row to indicate the level the team has achieved. If the team **EXCEEDS**, a short comment in the exceeds column is required.

BEGINNING 1	DEVELOPING 2	ACCOMPLISHED 3	EXCEEDS 4
			<i>How has the team exceeded?</i>
IDENTIFY – Team determined which missions to attempt, explored building and coding resources, and sought guidance as needed.			
<input type="checkbox"/> Minimal evidence of mission strategy	<input type="checkbox"/> Partial evidence of mission strategy	<input type="checkbox"/> Clear evidence of mission strategy	<input type="checkbox"/>
Minimal use of building or coding resources	Some use of building or coding resources	Clear use of building or coding resources to support their mission strategy	
DESIGN – Team members worked collaboratively on their designs and developed the building and coding skills needed.			
Minimal evidence that all team members contributed ideas	Partial evidence that all team members contributed ideas	Clear evidence that all team members contributed ideas	
<input type="checkbox"/> Minimal evidence of building and coding skills in all team members	<input type="checkbox"/> Partial evidence of building and coding skills in all team members	<input type="checkbox"/> Clear evidence of building and coding skills in all team members	<input type="checkbox"/>
CREATE – Team developed original designs or improved on existing ones according to their mission strategy.			
<input type="checkbox"/> Unclear explanation of attachments and their purpose	<input type="checkbox"/> Simple explanation of attachments and their purpose	<input type="checkbox"/> Clear explanation of innovative attachments and their purpose	<input type="checkbox"/>
<input type="checkbox"/> Unclear explanation of code and/or sensor use	<input type="checkbox"/> Simple explanation of code and/or sensor use	<input type="checkbox"/> Clear explanation of innovative code and/or sensor use	<input type="checkbox"/>
ITERATE – Team repeatedly tested their robot and code to identify areas for improvement and incorporated the findings into their solutions.			
<input type="checkbox"/> Minimal evidence of testing their robot and code	<input type="checkbox"/> Partial evidence of testing their robot and code	<input type="checkbox"/> Clear evidence of repeated testing of their robot and code	<input type="checkbox"/>
Minimal evidence of improvements based on testing	Partial evidence of improvements based on testing	Clear evidence of improvements based on testing	
COMMUNICATE – Team effectively explained what they learned from the robot design process and celebrated their progress.			
Unclear explanation of process and lessons learned	Simple explanation of process and lessons learned	Detailed explanation of process and lessons learned	
Team shows minimal pride or enthusiasm for their work	Team shows partial pride or enthusiasm for their work	Team clearly shows pride or enthusiasm for their work	

Criteria on this page with this style of check box count dually toward Robot Design and Core Values awards rankings

3. OUR TEAMS





THE PURPOSE of *FIRST* LEGO LEAGUE

Building on the *FIRST* Core Values

1. **Discovery**
2. **Impact**
3. **Inclusion**
4. **Innovation,**
5. **Teamwork**
6. **Fun**

This purpose of this program is to inspire young people to experiment and grow their critical thinking, coding, and design skills through fun, hands-on STEM learning and robotics.



TEAMS AT OUR TOURNAMENT

- **Will arrive full of hope and optimism**
- **Team Activities:**
 - Demonstrate their Core Values
 - Compete in three Robot Game matches
 - Attend a judging session with you
 - Innovation Project
 - Robot Design



• TEAM'S EXPECTATIONS VARY

- Some teams will:
 - Focus on winning the Champion's Award
 - Want to Advance to the next level of competition
 - Aim for an award in a specific area
 - Be here for the experience of competing for the first time
- They all want to do their best and produce their top performances



• INTERACTING WITH THE TEAMS

- Judging can be a tough job!
 - Your role is both **judge** and **mentor**
 - Offer **support** and **encouragement**
 - Ask **questions** and **challenge teams**
 - Look for the **POSITIVES**
 - Choose your words **carefully**
 - Be aware of **body language** – **Cell Phone Use?**



ZEN AND THE ART OF JUDGING...

- Calm Team's Nerves
 - Bring **Positivity** to the session
 - Consider the age of participants (9-14)
 - Consider the Team Size (2-10)
 - Consider specific physical / emotional needs
(Some students may request minimum spectators)
 - Choose your words **carefully**
 - Be aware of **body language** – **Cell Phone use?**
- **Every Team is always judged against the rubrics**



Oops Happens...

- If things “Go Wrong”
 - **Provide calm and supportive presence**
 - Offer **advice** about what to try next
 - Provide valuable **feedback with specific examples** to improve on for next time
- **Smile and “just be Yourselfes”**
- I will be stopping by the judging rooms periodically if you have questions or need support



4. OUR JUDGES



THE ROLE OF THE JUDGE

1. You are **the friendly face** greeting the teams
2. You are **reassuring** and **positive** and acknowledge all of the amazing work they have done
3. You **listen carefully** to what each team shares
4. You are a supportive **mentor**
5. **You give them suggestions *******
6. You **judge** the teams only **against** the established criteria documented in the **Rubrics**

"Like Dr. Who's Tardis, it's bigger on the inside than it seems on the outside!"



WE TRAVEL IN PODS

- Each Team is evaluated by a “Pod” consisting of 2-3 judges.
- Each pod is responsible for coming to consensus and completing one rubrics document packet for each team that they evaluate.
- Why?
 - Provides for multiple viewpoints
 - Balances judging bias
 - Keeps ideas flowing
 - Imparts an “energy” and drives “focus”



JUDGING and BIAS

- As humans, we each come with biases
- These come from differences in
 - Our ages
 - Our education
 - Life experiences
 - Cultural norms
 - Our perceptions of the world
- These are **NOT** right or wrong
- They make us who we are in our interactions with the world.



AS JUDGES in ***First Lego League:***

- **We Understand that FLL is a World-Wide competition**
- **We Strive for Fairness, Accuracy and Consistency in our team assessments**
- **We use the tools provided to minimize bias in judging**



JUDGING TOOLS

- 1. Judge training**
- 2. Judging in pods**
- 3. Use of the “Judging Style Assessment” in judging pod assignments**
- 4. Use of a standards-based assessment methodology – Our Rubrics**
- 5. Following a strict procedure in assigning awards**

Select A, B, or C for each question. Tally your answers at the bottom to find out your *FIRST*® LEGO® League Challenge judging style. Each question will present a scenario that you may encounter during judging. Select the answer that best describes how you would respond. Answer honestly, as there are no right or wrong answers.

- 1. During the team's presentation, one team member forgets their lines, so another team member steps in to help. What do you do?**
 - A. I note the mistake and deduct points for lack of preparation but appreciate the teamwork.
 - B. I commend the team member's quick thinking, then suggest the team spends more time practicing.
 - C. I applaud the team's quick recovery and highlight the importance of supporting each other.
- 2. A team states that during their research they found no solutions like the one they proposed, but you happen to know of a similar product on the market. How do you address this?**
 - A. I inform them about the existing product and suggest they conduct more thorough research next time.
 - B. I ask where they searched for existing solutions and suggest they share their ideas with the makers of the product I know for feedback.
 - C. I praise their innovation – it's impressive they were able to arrive at a similar solution on their own.
- 3. How do you know if a team had fun doing *FIRST* LEGO League?**
 - A. The team must explain it during their presentations.
 - B. Ask the team what they learned and how they celebrated their achievements. If they can answer, they get a 3 – Accomplished.
 - C. If the team seems happy and smiles, I know they are having fun.
- 4. Two team members seem distracted during the judging session, keep moving around, and won't make eye contact. What should the team do to include them?**
 - A. The team should pause their presentation and remind them to stay focused.
 - B. The team can assign tasks that match these students' interests to help them stay engaged.
 - C. I don't mind the distraction – being part of the team is what matters most.
- 5. A team enters the judging room doing their team cheer and they even have a team member dressed as their team's mascot. What is your reaction?**
 - A. I appreciate their enthusiasm, but it won't affect the way I score them on the rubrics.
 - B. I acknowledge their creativity, then provide suggestions on how they can incorporate their enthusiasm into other elements of their presentation.
 - C. I cheer along with them and encourage them to maintain this energy throughout the competition.
- 6. A team explains that they wanted to share their project solution with a famous expert on their chosen topic but were not able to get in contact with one. How would you score this team?**
 - A. I would mark them down on the iterate criteria, since they only included family feedback.
 - B. I would score them on how well they incorporated the family feedback and suggest local experts or organizations to share their solution with next.
 - C. I would commend their ambition and encourage them to keep trying to reach out to experts.
- 7. One team brings a hand-drawn diagram of their project solution to the judging session which receives high scores, but the next team brings a much more impressive CAD drawing along with a functional prototype to share. How do you score both teams?**
 - A. I would score the second team even higher due to the advanced prototype.
 - B. I would evaluate each team independently based on their resources and efforts.
 - C. I would praise both teams for their hard work, noting the impressive aspects of each approach.

JUDGING STYLE ASSESSMENT pg 1

IN SEARCH OF BALANCED PODS

8. A team presents a project that is highly innovative but not very practical. How do you score them?

- A. I appreciate their creativity but would score them higher if their idea was more realistic.
- B. I would score them highly for their innovative approach and ask whether they have considered how to address the challenges with their idea.
- C. I would score them highly for their innovation and encourage them to continue thinking outside the box.

9. During the Q&A session, only one team member answers all the questions while the others remain silent. What do you do?

- A. I remind teams of the importance of teamwork and encourage equal participation.
- B. I ask the team how they decided on their presenters to ensure that everyone had a chance to participate and share their ideas.
- C. I praise the confidence of the spokesperson.

10. A team shows great enthusiasm but did not complete all the requirements for the project presentation. How do you handle this?

- A. I note the missing requirements and deduct points accordingly.
- B. I acknowledge what they were able to achieve and ask about any barriers before pointing to the requirements they should plan to improve next time.
- C. I focus only on their positive attitude and effort during the session and provide feedback on the missing requirements in my rubric comments.

11. A team's robot uses a complex coded component that they clearly struggle to explain. What do you do?

- A. I would question them to make sure their coach didn't write the code.
- B. I would ask questions to help them clarify and encourage them to bring a visual aid next time.
- C. I would acknowledge the complexity of their code and encourage them to continue developing their explanation skills.

12. A team presents the solution they've worked on for a new technology, but there is no clear connection to the season theme, and they don't explain how they arrived at this topic during the question and answer. How would you score them?

- A. I would score them lower than teams who connected their project to the season theme.
- B. If they can't explain the connection, they may not score full points on the rubrics so I would provide feedback on making clearer links to the theme.
- C. I would score them on their creativity and explain how I think their ideas connects to the theme.

13. During the presentation, a team makes a factual error in their presentation. How do you address it?

- A. I would correct the error and suggest they double-check their facts in the future.
- B. I would ask where they learned that information and suggest additional sources they could explore.
- C. I wouldn't mention it during the session, but I would leave a comment on the rubric.

14. A team's presentation runs over the allotted time. How do you handle this?

- A. I would deduct points for the communicate criteria, emphasizing the importance of time management.
- B. I would remind them of the time constraints and suggest ways to streamline their presentation.
- C. I would let them finish and just spend less time at the end on feedback.

Count your total A, B, and C responses.

A _____ B _____ C _____

JUDGING STYLE ASSESSMENT pg 2

IN SEARCH OF BALANCED PODS



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Judging Style Results

Knowing your judging style and tendencies will help you when interacting with teams. Sharing your results with your Judge Advisor will help them to create balanced judging pods.

Mostly A's: Rigorous Assessor – You hold teams to high standards and expect excellence in all aspects of their performance. While your high expectations can push teams to excel, make sure you also acknowledge their efforts and foster a positive learning environment. Continue to suggest next steps for improvement, but remember that these students are early in their STEM journey and we want them to leave excited to do more.

Mostly B's: Constructive Critic – You ask thoughtful questions that help teams identify areas for improvement without being overly critical. Your constructive comments motivate teams to strive for excellence while being proud of what they have achieved. Continue to look closely at the rubric criteria and mark teams at the level that best matches their performance in the judging room.

Mostly C's: Generous Cheerleader - You are highly supportive of teams and are especially skilled at emphasizing their strengths. While your encouragement is valuable, remember you should also provide specific feedback that will help teams grow and develop their skills further. Continue to celebrate alongside the teams, but make sure they earn high scores **only** when they have met **all** the necessary criteria to score at that level.

A mix of A's, B's, and C's: Balanced Advocate – Sometimes you're more generous and sometimes you're more critical. You strike a balance between being supportive and challenging when the teams need it. Your feedback encourages teams while also pushing them to improve their skills and performance. However you lean as a judge, make sure you are kind and welcoming to the teams when they are in the judging session. Your job is to make sure they leave with a sense of accomplishment about what they achieved and a step toward what they might do next.



5. EVENT SCHEDULE

7:30 FIRST volunteers arrive

7:40 Judges Meeting (Training)

8:00 Doors open. Teams check-in

8:30 Coaches Meeting - Practice begins

8:45 Open Ceremony

9:30 Judging Rounds Begin

9:45 Robot runs begin

12:15 Judging Rounds End

12:15 - 1:00 Lunch time for all

1:00-3:30 Judges Awards Meeting

1:10 Robot runs resume

2:40 Last Robot run

2:45 Teams pack up pits / clean up

3:00 FTC Demo game

3:30 Closing Ceremony and Awards

4:00 Event ends

4:00 - 5:30 Clean up and Load out

SAMPLE TOURNAMENT SCHEDULE



6. JUDGING SESSION DETAILS



Roles of Individual Pod Judges

- **Lead Judge**
 - **Manages time and transitions through the sections**
 - **Responsible for submitting the single final rubric**
- **Other Judges in the Pod**
 - **Pod judges can set Pod responsibilities**
 - **e.g. Who will take the lead (Or if all judges jump-in) to complete specific rubric pages and lead specific Q&A sections**
 - **All judges in the pod will collaborate to provide the final score and feedback to the team**



Ready....Set.....Showtime!

- 30-Minute Judging Session
- Judging Sessions are Exciting and Fast Paced!
- Expect to Judge 4-5 Teams
- Keeping on-schedule is very important!

Minor flexibility (e.g., running 30 seconds over) is acceptable, but don't let it disrupt getting to the other sections



Team Welcome – 2 Minutes

- **Greet the team warmly**
- **VERIFY the team name and number!**
- **Seat spectators along sides of the room**
- **Lead judge introduces (short) all judges**
- **Allow teams to set up materials (Advise K.I.S.)**
- **Can use icebreaker questions**
 - **Gauge experience level**
 - **Settle them into the session**
- **Team can begin when ready**



• **What Questions Should I Ask????**

- **Each Judging Pod will be supplied with a Judging Script with some recommended questions.**
- **Start with these questions before asking additional questions of your own.**
- **You don't need to ask a recommended question if it has already been answered in the presentation.**
- **Avoid asking unrelated or overly-hard questions**
 - **Remember these are children developing new skills who may be quite nervous**



Innovation Project – 5 + 5 Minutes

- **Teams deliver a 5-minute live presentation**
 - **Do not interrupt unless running significantly long**
- **Judge's role:**
 - **Actively listen, make eye contact, show interest**
 - **Take notes and listen for evidence of the rubric standard achievement**
 - **Use the 5-minute Q&A time to:**
 - **Fill gaps in your understanding as to their achievement of the rubric standards**
 - **Probe deeper on important points**



• **Robot Design– 5 + 5 Minutes**

- **Teams *may* deliver a 5-minute live presentation (Some teams will not have a presentation – Move directly to Q&A)**
 - **Mission strategy**
 - **Methodology they followed to achieve their goals**
 - **Descriptions of the HW and SW they developed**
- **Judge's role:**
 - **Let the team share their progress**
 - **Focus on time management (RD easily goes LONG)**
 - **Use remaining Robot Design time in Q&A to:**
 - **Clarify unclear points**
 - **Fill any gaps in your understanding of their work (Coding?)**



Final Q&A and Feedback – Up to 8 Minutes

- **Opportunity to:**
 - **Ask any remaining questions about the team's work and season**
 - **Gather any missing rubric details**
 - **Allow the team to share any final insights about their season**
- **Judges provide specific constructive feedback before the team exists**
 - **Teams find this VERY valuable**
 - **Try to be as specific and POSITIVE as possible**
 - **Invite teams to "think about x" to "improve y"**
 - **Mention positives that you enjoyed**



Judges Deliberate – 10 (or 15) Min

- After the team exists
- Tasks for the Judges of the Pod:
 1. Collaboratively finalize a SINGLE final rubric package that provides your assessment of the team's presentations
 2. Be sure to assess teams against the rubrics and NOT against other teams
 3. Make sure to score each area and provide written feedback in the boxes.
 4. Keep moving! You must finish the rubric package for this team before you see the next team.....And ALSO Stay on Schedule

 5. A volunteer will come to pickup your completed package.
 6. Keep your notes for the all-judges awards meeting
 7. When Done: Secure any notes, Pause, Take a Cleansing Breath.....

Okay, Let's Backup.....



What's a "Rubric?"





















- **Global Assessment Standard:**
 - All First Lego League teams are evaluated against a rubric
 - Teams are **NOT** evaluated against each other
- **New format in this year's rubric package:**
 - 3 – Sheets for you to complete
 - One sheet to assess the team's Innovation Project
 - One sheet to assess the team's Robot Design
 - One sheet to provide your written feedback to the team

Team #	Team Name	Judging Room
--------	-----------	--------------

Instructions

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BEGINNING 1	DEVELOPING 2	ACCOMPLISHED 3	EXCEEDS 4	
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 Minimal evidence that development process involved all team members	 Partial evidence that development process involved all team members	 Clear evidence that development process involved all team members		
CREATE – Team developed an original idea or built on an existing one with a prototype model/drawing to represent their solution.				
 Minimal explanation of innovation in solution	 Simple explanation of innovation in solution	 Detailed explanation of innovation in solution		
<input type="checkbox"/> Unclear model/drawing that represents the solution	<input type="checkbox"/> Simple model/drawing that represents the solution	<input type="checkbox"/> Detailed model/drawing that represents the solution	<input type="checkbox"/>	
ITERATE – Team shared their ideas with others, collected feedback, and included improvements to their solution.				
<input type="checkbox"/> Minimal sharing of their solution with others	<input type="checkbox"/> Solution shared with at least one person/group	<input type="checkbox"/> Solution shared with multiple people/groups	<input type="checkbox"/>	
<input type="checkbox"/> Minimal evidence of improvements based on feedback	<input type="checkbox"/> Partial evidence of improvements based on feedback	<input type="checkbox"/> Clear evidence of improvements based on feedback	<input type="checkbox"/>	
COMMUNICATE – Team shared an effective presentation of their solution, its impact on others, and celebrated their team's progress.				
 Unclear explanation of the solution and its potential impact on others	 Partially clear explanation of solution and its potential impact on others	 Clear explanation of solution and its potential impact on others		
 Presentation shows minimal pride or enthusiasm for their work	 Presentation shows partial pride or enthusiasm for their work	 Presentation clearly shows pride or enthusiasm for their work		

INNOVATION PROJECT RUBRIC SHEET



CHALLENGE

Robot Design

Team #	Team Name	Judging Room
--------	-----------	--------------

Instructions

Teams should communicate to the judges their achievement in each of the following criteria. This rubric should be filled out according to the Robot Design explanation.

Judges are **required** to tick one box on each separate row to indicate the level the team has achieved. If the team **EXCEEDS**, a short comment in the exceeds column is required.

BEGINNING 1	DEVELOPING 2	ACCOMPLISHED 3	EXCEEDS 4
IDENTIFY – Team determined which missions to attempt, explored building and coding resources, and sought guidance as needed.			
<input type="checkbox"/> Minimal evidence of mission strategy	<input type="checkbox"/> Partial evidence of mission strategy	<input type="checkbox"/> Clear evidence of mission strategy	<input type="checkbox"/>
Minimal use of building or coding resources	Some use of building or coding resources	Clear use of building or coding resources to support their mission strategy	
DESIGN – Team members worked collaboratively on their designs and developed the building and coding skills needed.			
Minimal evidence that all team members contributed ideas	Partial evidence that all team members contributed ideas	Clear evidence that all team members contributed ideas	
<input type="checkbox"/> Minimal evidence of building and coding skills in all team members	<input type="checkbox"/> Partial evidence of building and coding skills in all team members	<input type="checkbox"/> Clear evidence of building and coding skills in all team members	<input type="checkbox"/>
CREATE – Team developed original designs or improved on existing ones according to their mission strategy.			
<input type="checkbox"/> Unclear explanation of attachments and their purpose	<input type="checkbox"/> Simple explanation of attachments and their purpose	<input type="checkbox"/> Clear explanation of innovative attachments and their purpose	<input type="checkbox"/>
<input type="checkbox"/> Unclear explanation of code and/or sensor use	<input type="checkbox"/> Simple explanation of code and/or sensor use	<input type="checkbox"/> Clear explanation of innovative code and/or sensor use	<input type="checkbox"/>
ITERATE – Team repeatedly tested their robot and code to identify areas for improvement and incorporated the findings into their solutions.			
<input type="checkbox"/> Minimal evidence of testing their robot and code	<input type="checkbox"/> Partial evidence of testing their robot and code	<input type="checkbox"/> Clear evidence of repeated testing of their robot and code	<input type="checkbox"/>
Minimal evidence of improvements based on testing	Partial evidence of improvements based on testing	Clear evidence of improvements based on testing	
COMMUNICATE – Team effectively explained what they learned from the robot design process and celebrated their progress.			
Unclear explanation of process and lessons learned	Simple explanation of process and lessons learned	Detailed explanation of process and lessons learned	
Team shows minimal pride or enthusiasm for their work	Team shows partial pride or enthusiasm for their work	Team clearly shows pride or enthusiasm for their work	

Criteria on this page with this style of check box count dually toward Robot Design and Core Values awards rankings









ROBOT DESIGN RUBRIC SHEET



Rubric Sheet Breakdown

- **Categories (Aligned with the Engineering Design Process)**
 1. Identify
 2. Design
 3. Create
 4. Iterate
 5. Communicate
- **Two Assessment criteria per category**
- **“Gear” shaped icons on five criteria on the sheet also count toward Core Values scores**
- **Scoring Levels: 1 (Beginning) to 4 (Exceeds)**

RUBRIC CATEGORIES & LEVELS

BEGINNING 1	DEVELOPING 2	ACCOMPLISHED 3	EXCEEDS 4 <i>How has the team exceeded?</i>	
IDENTIFY – Team had a clearly defined problem that was well researched.				
<input type="checkbox"/> Unclear definition of the problem	<input type="checkbox"/> Partially clear definition of the problem	<input type="checkbox"/> Clear definition of the problem	<input type="checkbox"/>	
 Minimal evidence of research	 Partial evidence of research from one or more sources	 Clear, detailed research from a variety of sources		
DESIGN – Team worked together while creating a project plan and developing their ideas.				
<input type="checkbox"/> Minimal evidence of an effective project plan	<input type="checkbox"/> Partial evidence of an effective project plan	<input type="checkbox"/> Clear evidence of an effective project plan	<input type="checkbox"/>	
 Minimal evidence that development process involved all team members	 Partial evidence that development process involved all team members	 Clear evidence that development process involved all team members		



Criteria on this page with this style of check box count dually toward Innovation Project and Core Values awards rankings

CORE VALUES - INNOVATION PROJECT

	BEGINNING 1	DEVELOPING 2	ACCOMPLISHED 3	EXCEEDS 4 <small>How has the team exceeded?</small>
IDENTIFY - Team had a clearly defined problem that was well researched.				
Discovery →	<input type="checkbox"/> Unclear definition of the problem	<input type="checkbox"/> Partially clear definition of the problem	<input type="checkbox"/> Clear definition of the problem	<input type="checkbox"/>
	<input type="checkbox"/> Minimal evidence of research	<input type="checkbox"/> Partial evidence of research from one or more sources	<input type="checkbox"/> Clear, original research from a variety of sources	<input type="checkbox"/>
DESIGN - Team worked together while creating a project plan and developing their ideas.				
Teamwork →	<input type="checkbox"/> Minimal evidence of an effective project plan	<input type="checkbox"/> Partial evidence of an effective project plan	<input type="checkbox"/> Clear evidence of an effective project plan	<input type="checkbox"/>
	<input type="checkbox"/> Minimal evidence that development process involved all team members	<input type="checkbox"/> Partial evidence that development process involved all team members	<input type="checkbox"/> Clear evidence that development process involved all team members	<input type="checkbox"/>
CREATE - Team developed an original idea or built an existing one with a prototype model/drawing to represent their solution.				
Innovation →	<input type="checkbox"/> Minimal explanation of innovation in solution	<input type="checkbox"/> Simple explanation of innovation in solution	<input type="checkbox"/> Detailed explanation of innovation in solution	<input type="checkbox"/>
	<input type="checkbox"/> Unclear model/drawing that represents the solution	<input type="checkbox"/> Simple model/drawing that represents the solution	<input type="checkbox"/> Detailed model/drawing that represents the solution	<input type="checkbox"/>
ITERATE - Team shared their ideas with others, collected feedback, and included improvements to their solution.				
	<input type="checkbox"/> Minimal sharing of their solution with others	<input type="checkbox"/> Solution shared with at least one person/group	<input type="checkbox"/> Solution shared with multiple people/groups	<input type="checkbox"/>
	<input type="checkbox"/> Minimal evidence of improvements based on feedback	<input type="checkbox"/> Partial evidence of improvements based on feedback	<input type="checkbox"/> Clear evidence of improvements based on feedback	<input type="checkbox"/>
COMMUNICATE - Team shared an effective presentation of their solution, its impact on others, and celebrated their team's progress.				
Impact →	<input type="checkbox"/> Unclear explanation of the solution and its potential impact on others	<input type="checkbox"/> Partially clear explanation of solution and its potential impact on others	<input type="checkbox"/> Clear explanation of solution and its potential impact on others	<input type="checkbox"/>
	<input type="checkbox"/> Presentation shows minimal pride or enthusiasm for their work	<input type="checkbox"/> Presentation shows partial pride or enthusiasm for their work	<input type="checkbox"/> Presentation clearly shows pride or enthusiasm for their work	<input type="checkbox"/>
Fun →				
<input type="checkbox"/> Criteria on this page with this style of check box count doubly toward Innovation Project and Core Values awards ratings.				

CORE VALUES - ROBOT DESIGN

+

	BEGINNING 1	DEVELOPING 2	ACCOMPLISHED 3	EXCEEDS 4
				How has the team exceeded?
	IDENTIFY - Team determined which evidence to attempt, explored building and coding resources, and sought guidance as needed.			
Discovery	<input type="checkbox"/> Minimal evidence of mission strategy	<input type="checkbox"/> Partial evidence of mission strategy	<input type="checkbox"/> Clear evidence of mission strategy	<input type="checkbox"/>
	<input type="checkbox"/> Minimal use of building or coding resources	<input type="checkbox"/> Some use of building or coding resources	<input type="checkbox"/> Clear use of building or coding resources to support their mission strategy	<input type="checkbox"/>
	DESIGN - Team members worked collaboratively on their designs and developed the building and coding skills needed.			
Inclusion	<input type="checkbox"/> Minimal evidence that all team members contributed ideas	<input type="checkbox"/> Partial evidence that all team members contributed ideas	<input type="checkbox"/> Clear evidence that all team members contributed ideas	<input type="checkbox"/>
	<input type="checkbox"/> Minimal evidence of building and coding skills in all team members	<input type="checkbox"/> Partial evidence of building and coding skills in all team members	<input type="checkbox"/> Clear evidence of building and coding skills in all team members	<input type="checkbox"/>
	CREATE - Team developed original designs or improved on existing ones according to their mission strategy.			
	<input type="checkbox"/> Unclear explanation of attachments and their purpose	<input type="checkbox"/> Simple explanation of attachments and their purpose	<input type="checkbox"/> Clear explanation of innovative attachments and their purpose	<input type="checkbox"/>
	<input type="checkbox"/> Unclear explanation of code and/or sensor use	<input type="checkbox"/> Simple explanation of code and/or sensor use	<input type="checkbox"/> Clear explanation of innovative code and/or sensor use	<input type="checkbox"/>
	ITERATE - Team repeatedly tested their robot and code to identify areas for improvement and incorporated the findings into their solutions.			
Innovation	<input type="checkbox"/> Minimal evidence of testing their robot and code	<input type="checkbox"/> Partial evidence of testing their robot and code	<input type="checkbox"/> Clear evidence of repeated testing of their robot and code	<input type="checkbox"/>
	<input type="checkbox"/> Minimal evidence of improvements based on testing	<input type="checkbox"/> Partial evidence of improvements based on testing	<input type="checkbox"/> Clear evidence of improvements based on testing	<input type="checkbox"/>
	COMMUNICATE - Team effectively explained what they learned from the robot design process and celebrated their progress.			
Impact	<input type="checkbox"/> Unclear explanation of process and lessons learned	<input type="checkbox"/> Simple explanation of process and lessons learned	<input type="checkbox"/> Detailed explanation of process and lessons learned	<input type="checkbox"/>
	<input type="checkbox"/> Team shows minimal pride or enthusiasm for their work	<input type="checkbox"/> Team shows partial pride or enthusiasm for their work	<input type="checkbox"/> Team clearly shows pride or enthusiasm for their work	<input type="checkbox"/>
Fun	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> Criteria on this page with this style of check box used closely toward Robot Design and Core Values awards ratings			



• Understanding Assessment Levels

1. BEGINNING (1):

- Little/no evidence of achievement
The “Developing” level criteria was not fully met
- **Key words:** *Minimal/Minimally, Unclear, Limited*

2. DEVELOPING (2):

- Progress made, but evidence is simple or inconsistent
- **Key words:** *Partial/Partially, Inconsistent, Simple*



• Understanding Assessment Levels

3. ACCOMPLISHED (3):

- Clear, consistent evidence of achievement
- **Key words:** *Consistent, Clear, Detailed*

4. EXCEEDS (4):

- **Rarely Seen!**
- Goes beyond expectations, showcasing a **“Wow!” factor**
- **“Cute” / “Adorable” is NOT the same as Wow!**
- Requires judges to add specific comments on the rubric criteria line explaining how the team exceeded the criteria standard and evoked **“Wow”** in you



• **Scoring Guidelines**

- **Criteria-Driven:** Teams should be scored against the rubric criteria, **NOT** compared with other teams
- **Consistency Among Judges:**
 - **We strive to have consistency across the judging pods**
 - **All judges should strive to apply criteria uniformly across the teams they see.**
 - **Avoiding awarding a “4” unless a team goes beyond the stated criteria.**
 - **There are no “1/2” scores. A team must fully meet the requirements of a scoring level to be awarded that score**

Completing the Rubrics



- **Judges work as a team for scoring decisions:**
 - Discuss, decide, write, and move forward
- **Each Team, Each Criterion:**
 - Score all rows for both Innovation Project and Robot Design rubric sheets
 - Keep notes during presentations to assist in consistent scoring
- **Judging Session Feedback Sheet:**
 - Provide 1-2 specific feedback items per box
 - Optional Awards: (If these awards are being given)
 - Check the box to Nominate a team for an optional award
 - Be prepared to discuss your rationale for your nomination
- **Note:** Rubric package will be returned to the teams so **avoid making spurious notes on these sheets**



CHALLENGE

Judging Session Feedback

Team #	Team Name	Judging Room
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Instructions

This sheet should be used to record written feedback following the Innovation Project presentation and Robot Design explanation. The *FIRST*® Core Values are the lens through which judges watch the team's presentations and evaluate their progress.

The rubrics and feedback page will be returned to teams at the end of the event.

Great job...	Think about...
Core Values – How did the team demonstrate teamwork, discovery, inclusion, innovation, impact, and fun in their work?	
Innovation Project – How did the team identify and approach solving a problem connected to the season theme?	
Robot Design – How did the team approach solving robot game missions using building and coding?	

If the team is a candidate for one of these awards, please tick the appropriate box. Check with your event organizer which optional awards your event uses.

- Breakthrough Award** A team that made significant progress in their confidence and capability in at least one of the core areas of *FIRST*LEGO League.
- Rising All-Star** A team that the judges notice and expect great things from in the future.
- Motivate** A team that embraces the culture of *FIRST* LEGO League through team building, team spirit, and enthusiasm.

JUDGING SESSION FEEDBACK RUBRIC SHEET

OPTIONAL AWARD NOMINATION

(*** IF GIVEN THIS TOURNAMENT ***)

If the team is a candidate for one of these awards, please tick the appropriate box. Check with your event organizer which optional awards your event uses.

- | | | |
|--------------------------|---------------------------|---|
| <input type="checkbox"/> | Breakthrough Award | A team that made significant progress in their confidence and capability in at least one of the core areas of <i>FIRST</i> LEGO League. |
| <input type="checkbox"/> | Rising All-Star | A team that the judges notice and expect great things from in the future. |
| <input type="checkbox"/> | Motivate | A team that embraces the culture of <i>FIRST</i> LEGO League through team building, team spirit, and enthusiasm. |



• **“Rinse & Repeat”**

- **Judging Pods will usually see 4-5 teams**
- **Important to stay on-schedule**
- **After you have seen your scheduled teams:**
 - **Secure any papers leftover from the sessions**
 - **Bring all judging supplies to the Judges room**
 - **Save your notes for the awards meeting**
 - **Recycle other papers in the Judges Room**
 - **Lights-off, Final room check, Close the door**
- **Return to the Judges Room**
- **Enjoy the Volunteer's *“Gourmet Lunch”***



7. AWARDS

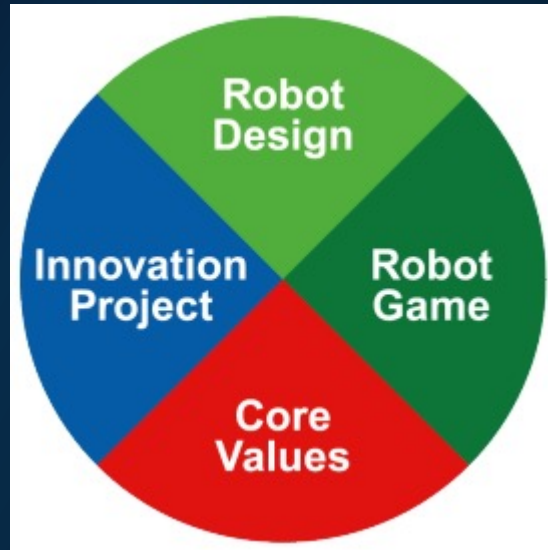
*" The After-Lunch
All-Judges Meeting"*

**What Happens
in the
Judges Room....**



**Stays
in the
Judges Room!**

IT IS ALL IMPORTANT



"Success in all four parts of the competition is like a four-legged chair—leave one out, and the whole thing topples."

– Anonymous

Determining the Champion's Rank

$$\text{INNOVATION PROJECT RANK} + \text{COREVALUES RANK} + \text{ROBOTDESIGN RANK} + \text{ROBOT GAME RANK} = \text{CHAMPION'S SCORE}$$

These Champion's Scores are ranked to produce the CHAMPION'S RANK. The lowest score will be the top ranked team.

ADVANCEMENT

- X-NUMBER (BASED ON THE SIZE OF THE TOURNAMENT) OF TEAMS WILL ADVANCE TO FURTHER COMPETITION
- ADVANCEMENT IS BASED ON CHAMPION'S SCORE

THE TEAMS HAVE BEEN SEEN – NOW WHAT???

COMPUTER ROLLS-UP THE SCORES BUT
THE JUDGES MAKE THE ASSIGNMENTS.

1. JUDGES FOLLOW A RIGOROUS STRUCTURED STANDARD PROCESS TO ASSIGN AWARDS.
2. GOAL -RECOGNIZE ACHIEVEMENT WIDELY
3. # OF AWARDS BASED ON SIZE OF MEET
4. TEAM CAN WIN ONLY 1 AWARD
(+ ROBOT PERFORMANCE IF APPLICABLE)

REQUIRED AWARDS

(+ UP TO 3 FINALISTS EACH)

1. CHAMPION'S AWARD
2. ROBOT PERFORMANCE
3. CORE VALUES AWARD
4. INNOVATION PROJECT AWARD
5. ROBOT DESIGN AWARD

REQUIRED AWARDS

(UP TO 6 WINNERS)

6. COACH / MENTOR AWARD

(VIA NOMINATIONS)

OPTIONAL AWARDS

(UP TO 3 WINNERS EACH)

THESE ARE NOT ANY LESS THAN THE REQUIRED AWARDS; BUT SINCE THEY ARE AWARDED AFTER THE REQUIRED ONES, THE TEAMS HIGHER UP ON THE CHAMPION'S RANK TEND TO GET THE REQUIRED AWARDS.

1. ENGINEERING EXCELLENCE AWARD
2. BREAKTHROUGH AWARD
3. RISING ALL-STAR AWARD
4. MOTIVATE AWARD
5. PEER AWARD (VIA NOMINATION)



- **“FLL Sausage Making”**

- **Judges work through the Award Assignment process.**
 - **Judges who score 4’s will be asked to support their score.**
 - **In cases where teams have similar scores, Judges who scored the teams may be asked to support their scores.**
 - **In some cases, Judges will take ‘field trips’ to the pits to review / support their decisions.**
- **In the end, the judges will reach a consensus as to the Award Winners.**
- **Judge pods who saw the winning teams will write a “fitting and disguised” introduction**



• **Disguised Introduction Example**

For team: "The Auto Divers" who's project was to tag crabs to understand migration and when to open the crabbing season

Introduction:

"This team dove into marine innovation, designing a solution to track migration patterns of some sideways-moving crustaceans.

Their efforts aim to support sustainability by uncovering insights that could guide crabbing season decisions.

Please congratulate these sharp-minded problem-solvers and winners of the Innovation Project award – Auto Divers!"



“Ahhhhh” We Did It!!!

- **Judges receive a hearty Well Done!**
- **Pack-Up and head down for the Award Ceremonies where the Judges will award the trophies to the winning teams**
- **Note: The Rubric package will be returned to the Teams after the awards are presented BUT all notes and other deliberation materials should remain in the Judges room. These papers will be destroyed.**

WE HOPE YOU ENJOYED YOUR EXCITING DAY!

**As Trained and Experienced Judges,
please consider volunteering at
additional FLL Tournaments**



THANK YOU



Greg Viliunas
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