


FIRST® LEGO® LEAGUE 2011



FOOD FACTOR®



FIRST® LEGO® League

Project Judging Pre-Tournament Preparation Pack
Smaller Qualifying Tournament Edition

www.firstlegoleague.org



FLL Core Values

We are a team.

We do the work to find solutions with guidance from our coaches and mentors.

We know our coaches and mentors don't have all the answers; we learn together.

We honor the spirit of friendly competition.

What we discover is more important than what we win.

We share our experiences with others.

We display Gracious Professionalism in everything we do.

We have fun.



10 Things to Know As an FLL Judge

Please be sure to check out www.firstlegoleague.org for additional information, including Judging and other official Q & A from throughout the season:

Robot Game Updates: <http://firstlegoleague.org/media/twocol.aspx?id=268>

Project FAQ: <http://www.firstlegoleague.org/media/twocol.aspx?id=314>

Judging Questions: fljudge@usfirst.org

Thank you for agreeing to be a judge with *FIRST*® LEGO® League. The information in this packet is designed to help you prepare as an FLL Judge this season. It is intended to offer background information that will be useful to review prior to your tournament. You should also participate in training sessions that may be offered through your local tournament organizer and/or FLL. We hope your experience as an FLL Judge is rewarding and enjoyable!

10. Have fun – you and the kids

The most important thing to know about an FLL tournament is that it is supposed to be **FUN**. The mission of *FIRST* is to get kids excited about science and technology. A competition is a celebration of what the children have accomplished throughout the season. It should be serious and competitive, but not so much that the fun is lost.

9. Exhibit Gracious Professionalism and honor FLL Core Values

These are the basic foundations of *FIRST* LEGO League, and should always be at the forefront in everyone's minds. We offer specific awards to recognize FLL Core Values excellence, but a significant concern can impact team eligibility in *any* award category.

8. Be a good role model for technology and engineering careers

Give the kids a chance to see what makes engineers, scientists, computer programmers and educators special. Share your experiences without sharing your agendas. Be professional – show the kids that what they have accomplished is appreciated and valuable. Show interest in their presentations and discussions, and be personable.

7. Respect the children

Please keep negative comments to yourself, away from the ears of the kids, parents, and coaches. All teams should be given the benefit of the doubt when questions arise about adult involvement. If you suspect the kids did not do the work, it is your job to probe further to prove it, rather than assuming that the kids did not do the work. Remember that these are kids who worked hard all season to make it to the tournament. Treat their accomplishments with respect, and be sure that other judges do so as well. One negative comment from a judge can have a devastating effect on teams. Make it your goal as a judge to ensure that the teams know what they did well, and that they have a positive experience showcasing their achievements.

6. Respect the judging process

Stay on schedule. The kids have a more challenging schedule than you do. Remember the FLL awards philosophy. Remember that the whole judging process is subjective. Concentrate on providing a great experience for the kids and try not to get caught up in

the mechanics of the process. Do not share scores or awards discussions with the kids, coaches or parents.

5. Evaluate teams completely and fairly

Each rubric is designed to evaluate many areas of a team's performance, and gives equal weighting to several factors tied to specific awards. All Core Awards are of equal importance, except for our Champion's Award that recognizes all-around excellence. Be objective, both on a team-by-team basis and a total rubric evaluation basis. Familiarize yourself with the levels of achievement. Identify any conflicts of interest you have before the competition, and refrain from involving yourself in discussions about any team when you have a conflict.

4. Consider age appropriateness and experience

Consider age when evaluating teams. Certain skills, knowledge, and capabilities are more likely to be exhibited by the kids as they get older and more experienced in general and in FLL in particular. You may also see rookie teams that are more polished and understand FLL better than experienced teams.

3. Reward excellence and celebrate achievement

For a team to be considered for an award, they should be evaluated at an Exemplary level of achievement in that category whenever possible. Award distribution is spread as equitably as possible among the teams, with the goal of no team winning more than one judged award.

2. Provide specific and constructive feedback

Please be specific when providing feedback comments to teams. This will also help when it comes to awards deliberations – specific examples are very helpful when differentiating between teams. "This team's willingness to help other teams (by providing programming mentorship, for example) is exemplary" is more descriptive and helpful than "that team was so nice and polite and exhibited gracious professionalism." Take lots of notes if you need to!

1. See #1 again!

Project Judging Primer

Project judging in FLL can be compared to research presentations given at a scientific conference, except FLL project presentations are typically a whole lot more fun! Teams present a challenge-related problem they have researched and analyzed. They also present their innovative solution to that problem, and tell about how and with whom they shared their research. These steps parallel the scientific research process in the “real world”. All of this information is communicated in a creative presentation to the judges that takes no more than 5 minutes, including setup time.

As a Project judge, here are some overall things to consider:

- To be eligible for any Project awards, teams must demonstrate that they have completed all three components of the Project: problem identification, development of an innovative solution, and sharing of the project with others.
- Make sure that teams also complete any additional challenge-specific requirements. For example, in the Power Puzzle season, teams had to perform an energy audit as a part of the Project.
- Innovation and creativity are considerations in several of the Project rubric criteria. Try not to overly penalize a team for a solution they present as original, but that you know is already being considered or implemented. Different judges may also have very different knowledge levels of state-of-the-art science relative to the Project. If you are aware that their solution already exists, make it known to them in a respectful, gentle manner, and **MAKE SURE** you provide them that feedback.

Now let’s take a closer look at the criteria and provide some guidance about what to look for and consider:

Research

Problem Identification – For teams to rate Accomplished or higher, they must be able to clearly articulate a well-defined problem statement. Sometimes teams will present a set of issues related to the challenge but not focus on a specific problem. For example, global climate change is a very broad problem that could have many causes. A more specific and well defined problem that would make a more appropriate FLL Project might be something like reducing greenhouse gas emissions from coal burning power plants.

Sources of Information – The key things to look for here are quality, variety and number of sources. Accomplished teams should include at least one professional they have communicated with as a source. Note that books or news articles or magazines that a team reads via the internet should be considered as three different types of sources. Exemplary teams will consider a wider variety of good quality sources as well as seek out and learn from professionals. Professionals are considered to be people who have specialized knowledge about a particular area. For example, a biomedical engineer might be considered a professional when it comes to research concerning robotic arms used to replace lost limbs. Another example could be a shipping logistics manager who is consulted when researching how food is shipped long distances while still maintaining quality.

Problem Analysis – Accomplished teams will analyze a problem sufficiently to form their own conclusions. For example, a team that performs its own tests of various ice melting materials to determine their effectiveness when researching the problem of motor vehicle movement in snowy and icy climates is a good example of a team performing its own analysis.

Review Existing Solutions – Teams should perform a good faith effort to review existing solutions and determine the originality of their solution. Teams are not expected to perform an exhaustive literature search including the very latest scientific journals to determine originality.

Innovative Solution

Team Solution – Similar to the Problem Identification requirements, the team’s solution should focus directly on the problem they are trying to solve, explain how it solves that problem, and be clearly stated.

Innovation – The main issue of subjectivity here surrounds the question “What does ‘original’ mean when it comes to innovation?” A team may develop a truly innovative device to assist someone who is blind, or they may come up with the idea to apply Velcro to walls to serve as a sensory guide; both are innovative. Teams will sometimes believe their solution to be something they’ve developed on their own only to find out from an expert judge that some other group has already developed that same solution. They may also find this out days before the competition and not have time to develop a new, completely original solution. Be sensitive to these situations. A team does NOT have to develop a completely new, patented by the team idea to be considered for this award or to score high in this area. Note that FLL has a separately judged, non-event based award called the Global Innovation Award for teams that choose to pursue a patent opportunity.

Implementation – Teams should demonstrate that they have considered how their solution might be implemented. Team solutions should be more grounded than pie in the sky, but solutions need not be implementable now. For example, a team should not be penalized for a solution that may require the invention of an additional component to be workable. While not required, a team that builds a prototype of their solution should most likely be considered Exemplary, provided they consider other aspects of how to implement their solution.

Presentation

Presentation Effectiveness – Look for well-organized presentations that clearly deliver the message. Note that the presentation MUST demonstrate all three of the project aspects. It is not sufficient to cover Sharing (for example) only during the question and answer part of the judging session.

Creativity – This criterion is probably the most subjective one for Project judges. Creativity is different for different people. Look for presentations that stand out, are more entertaining, make you want to listen to the message more and serve to enhance the delivery of the message instead of distract from it.

Sharing – The two main considerations here are “Did the team consider who might benefit from their solution, and share it with them?” and “Did the team go beyond their comfort zone to share their ideas?” The first consideration focuses on encouraging teams to share with a relevant and targeted audience, for example presenting a new insulin delivery system to kids with juvenile diabetes. The second consideration focuses on encouraging teams to share their information with people they don’t know so that they can become comfortable speaking about their ideas with anyone. Note that a team does not necessarily have to share its FLL competition presentation with outside groups; they may share the information and their solution in any manner they wish.

Directions: For each skill area, clearly mark the box that best describes the team's accomplishments. If the team does not demonstrate skill in a particular area, then put an 'X' in the first box for Not Demonstrated (ND). Please provide as many written comments as you can to acknowledge each team's hard work and to help teams improve.

		Beginning	Developing	Accomplished	Exemplary
Research	Problem Identification	Clear definition of the problem being studied			
	N D	unclear; few details	somewhat clear; details missing	clear; detailed	very clear; very detailed
	Sources of Information	Types (e.g. books, magazines, websites, reports and other resources) and number of quality sources cited, including professionals in the field			
	N D	one type of information cited; minimal sources	two types of information cited; several sources	three types of information cited; many sources, including professionals	four(+) types of information cited; extensive sources, incl. professionals
	Problem Analysis	Depth to which the problem was studied and analyzed by the team			
	N D	minimal study; no team analysis	minimal study; some team analysis	sufficient study and analysis by team	extensive study and analysis by team
	Review Existing Solutions	Extent to which existing theories and solutions were analyzed by the team, including an effort to verify the originality of the team's solution			
N D	minimal review; no team analysis	minimal review; some team analysis	sufficient review and analysis by team	extensive review and analysis by team	
Comments:					
Innovative Solution	Team Solution	Clear explanation of the proposed solution			
	N D	difficult to understand	some parts confusing	understandable	easy to understand by all
	Innovation	Degree to which the team's solution makes life better by improving existing options, developing a new application of existing ideas, or solving the problem in a completely new way			
	N D	existing solution/application	solution/application contains some original element(s)	original solution/application	original solution/application with the potential to add significant value
	Implementation	Consideration of factors for implementation (cost, ease of manufacturing, etc.)			
N D	minimal factors considered	some factors considered	factors well considered; some question about proposed solution	factors well considered and feasible solution proposed	
Comments:					
Presentation	Presentation Effectiveness	Message delivery and organization of the presentation			
	N D	unclear OR disorganized	somewhat clear; minimal organization	mostly clear; mostly organized	very clear AND well organized
	Creativity	Imagination used to develop and deliver the presentation			
	N D	minimally engaging OR unimaginative	engaging OR imaginative	engaging AND imaginative	very engaging AND exceptionally imaginative
Comments:	Sharing	Degree to which the team shared their Project before the tournament with others who might benefit from the team's efforts			
	N D	shared with one individual	shared with one group	shared with one individual or group who may benefit	shared with multiple individuals or groups who may benefit



What to Expect as a Judge

Day of the Event

Before Judging Sessions

- Meeting with the Judge Advisor to review
 - Event schedule
 - Judging procedures
 - Judging Deliverables
 - Last minute items
- Meet your judging partner(s) and the rest of the panel
- Attend the Opening Ceremonies

During Team Evaluations

- Interview teams
- Make sure sessions stay on schedule
- Evaluate each team according to rubric criteria and note constructive comments
- Keep additional notes of team specifics if needed
- Note and report:
 - cases of adult intervention
 - demonstrations of GP & FLL Core Values

During Deliberations

- Submit award nominations and rankings by your judging pair
- Participate with all area judges to determine award candidates/merged preliminary ranking
- Work with judges of other categories to determine the Champion's Award winner(s)
- Work with all judges to finalize remaining awards and prepare scripts

During the Awards Ceremony

- Attend the Awards Ceremony (if possible)
- Help distribute medals, awards and other team recognition
- Join the high-five line, congratulate all teams and have fun!



Judging Process

You will work with other judges throughout the tournament using FLL's process to evaluate teams and determine awards

Note that you may work with different judges at different times

Judging Pairs

Three Judging Areas

All Judges





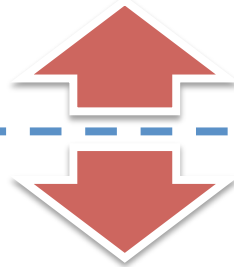
Judging Process

Team Evaluation and Feedback

Awards Deliberations

During **Team Evaluation and Feedback**, the focus of the judges is on evaluating each team and providing them with constructive feedback

During **Awards Deliberations**, the focus of the judges is on determining the teams worthy of awards and recognition



FLL Core Awards-Small Qualifier Structure

Champion's Award

This award recognizes a team that embodies the FLL experience, by fully embracing our Core Values while achieving excellence and innovation in both the Robot Game and Project.

Project Award

This award recognizes a team that excels across the Research, Innovative Solution and Presentation categories. This team utilized diverse resources for their Project to help them gain a comprehensive understanding of the problem they identified, develop a creative, well-researched solution and effectively communicate their findings to judges and the community.

Core Values Award

This award recognizes a team that excels across the Inspiration, Teamwork and Gracious Professionalism® categories. This team displays extraordinary enthusiasm and spirit, knows they can accomplish more together than they could as individuals, and shows each other and other teams respect at all times.

Robot Design Award

This award recognizes a team that excels across the Mechanical Design, Programming and Strategy & Innovation categories. This team uses outstanding programming principles and solid engineering practices to develop a robot that is mechanically sound, durable, efficient and highly capable of performing challenge missions.

Robot Performance Award

This award recognizes a team that scores the most points during the Robot Game. Teams have a chance to compete in at least three 2.5 minute matches and their highest score counts.

Judges Awards

During the course of competition the judges may encounter teams whose unique efforts, performance or dynamics merit recognition. Some teams have a story that sets them apart in a noteworthy way. Sometimes a team is so close to winning an award that the judges choose to give special recognition to the team. Judges Awards allow the freedom to recognize remarkable teams that stand out for reasons other than the Core Award categories.

Examples include:

Against All Odds *or* Overcoming Adversity *or* Perseverance

This award goes to the team that improvises and overcomes a difficult situation while still making a respectable showing, with an attitude that shows, “We can overcome incredible odds if we never give up, no matter what!”

Rising Star

This award recognizes a team that the judges notice and expect great things from in the future.

Special Recognition Awards

Outstanding Volunteer Award

The FLL program would not exist without its volunteers. This award honors an extraordinary volunteer(s) whose dedication to the FLL program has a positive impact on the team experience.

Adult Coach/Mentor Award

Many teams reach significant milestones thanks to their close relationship with an adult mentor. This award goes to the coach or mentor whose wisdom, guidance, and devotion are most clearly evident in the team’s discussion with the judges.

Young Adult Mentor Award

FLL presents this award to the young adult, high school or college mentor whose support, impact, inspiration, and guidance are most clearly evident in the team’s discussion with the judges.

Project Sample Questions

Research

Problem Identification

- How did your team decide which problem to study?
- Describe the problem your team selected in three sentences or less.
- What are the most important things to understand about the problem that you studied?

Sources of Information

- What resources did you use to research your problem and why did you choose these?
- Did you use any unusual methods to research your topic? If so what and why?
- Did you speak to anyone whose work relates to the Challenge area? What did you learn from them?
- What was the most helpful resource that your team used? Why?
- If you had to start your research over, which resource would you use first? Why?

Problem Analysis

- How did your team organize and use its research?
- After working on this project, what is the most important thing that your team learned?
- Can you tell us about a problem you discovered or something that you learned that surprised you while completing this project?

- Review Existing Solutions Are you aware of anyone else who has studied the problem you chose?
- How have other people tried to solve the problem you identified?
- Did the information you found offer different ideas than what you expected to find? If so, what and how did your team use this information?

Innovative Solution

Team Solution

- Describe the solution your team identified in three sentences or less.
- What are the most important things to understand about the solution that you developed?
- How did you arrive at your solution and why?
- Were there other solutions that you thought of that you decided not to use? Why?

Innovation

- What makes your solution different from what is being used to solve this problem now, and why do you think it is better?

Implementation

- If someone tried to use your solution today, would it be possible?
- What kinds of things would be important to think about if you tried to use your solution right now?
- What resources would you need to develop your solution?
- Do you think your solution would be easier or less costly than other solutions you considered or are used by others?

Presentation

Presentation Effectiveness

- How many/what different presentation styles did your team consider?
- Why did you choose the presentation style that you chose? How does this style help your audience understand what you are telling them?
- When you have given your presentation to others, what types of questions have they asked?
- Describe how you chose what information to include in your presentation.
- Why did you choose to organize your presentation the way you did?

Creativity

- How did you decide on this presentation style that you used?
- What do you think was the most creative aspect of your presentation or project and why?
- How is the way your team chose to present your Project special or unique?

Sharing

- One aspect of the project asked you to share your ideas with others. How did your team do this?
- With whom did you share your project? Why did you choose them?
- How did you share the information? Did you present it in the same manner as you presented to us, or did you choose a different approach? Why?
- What impact did your presentation have on them?
- What changes have you or others made as a result of your research and presentation?

Look for:

- Documentation of resources used.
- Depth of the information provided.
- All students participated in the research process, or understand the process and results of the team's research.
- Supporting printed materials provided to judges.
- Entire team participating in discussion.
- How the team interacts with each other.
- Do they all talk, or only a few? If so, why?
- Does the team look to the coach often or are they focused on the presentation and judges.
- Noteworthy observations about FLL Core Values to share with the judging team.



2011 FLL CHALLENGE

the project

THINK ABOUT IT

Food begins to spoil from the moment it is harvested. For centuries, people have worked to protect their food and keep it safe.

Did you know that if you lived with hunters and gatherers in 12,000 B.C., you might have helped to make baskets or clay pots to protect your family's food? If you grew up in the days of ancient Romans, you might have helped to dry fruits and vegetables. In medieval Europe, your chores might have included helping to salt, smoke, pickle, or ferment the food you grew. Your food had to last from harvest-to-harvest through the freezing winters and hot summers. In the pioneer days in North America, you might have cut and hauled ice in the winter. In summer, maybe you fetched your food from a cool spring house or root cellar. Each of these chores (done by people your age) helped keep food safe to eat.

Have you ever thought about how your food stays fresh?

The technology might have changed over the centuries, but all these ways to keep your food safe are still used today. Maybe you fetch your food from an electric refrigerator or freezer instead of an ice box, spring house, or root cellar. Maybe you go to the cupboard for freeze-dried snacks instead of to a smoke house for heat-dried vegetables. Instead of a clay pot, maybe you open a glass jar, plastic food container, vacuum pack, or aluminum can.

Have you ever thought about who invented these things?

With the invention of the microscope, scientists discovered bacteria, parasites, and other threats to our food and ourselves. Pasteurizing, refrigerating, freezing, vacuum packing, and irradiating became common as scientists and engineers found new ways to keep food safe for longer and longer.

Have you ever thought about how your food is protected from microscopic attacks?

At the same time, other scientists and engineers discovered better fertilizers, pest killers, and medicines for farm animals. Inventors created new machines for planting and harvesting. These inventions allowed farmers to grow more food than their families and neighbors needed. Food began to travel farther and farther from where it was grown. Today, the food you eat might have traveled hundreds or thousands of miles before it got to you.

Have you ever thought about where your food comes from and how it stays safe to eat?

What do a candle, a metal detector, a clay pot, vibrating molecules, smoke, a computer, salt, a laser, ice, and an invisible light beam have to do with your food? Each plays a role, either in preserving food or testing it for safety. Have you ever thought about that?

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How do a veterinarian, a factory worker, a physicist, a truck driver, a mathematician, a farmer, a microbiologist, a nutritionist, a doctor, a warehouse worker, a chemist, a grocer, a technician, an engineer, an inspector, and a programmer work together to keep your food safe? Each one played a role in making sure that the food you eat helps you grow and stay healthy. What does each one do?

Your Project challenge this season is to investigate your food and find one way to improve its safe delivery to you. Some questions to consider while you investigate include: Where does your food come from? How is it grown? Where has it been? Who handled it? How did it get to your kitchen cupboard? Who protected it along the way? How did they prevent spoiling and contamination? How did they decide which food was good and which was spoiled or contaminated? Once you know about the threats your food faces and who helps protect it, do some research. What could go wrong? How could your food become contaminated or spoiled? How could your team help prevent one of those problems? How could your team protect or preserve your food?

Identify a Problem

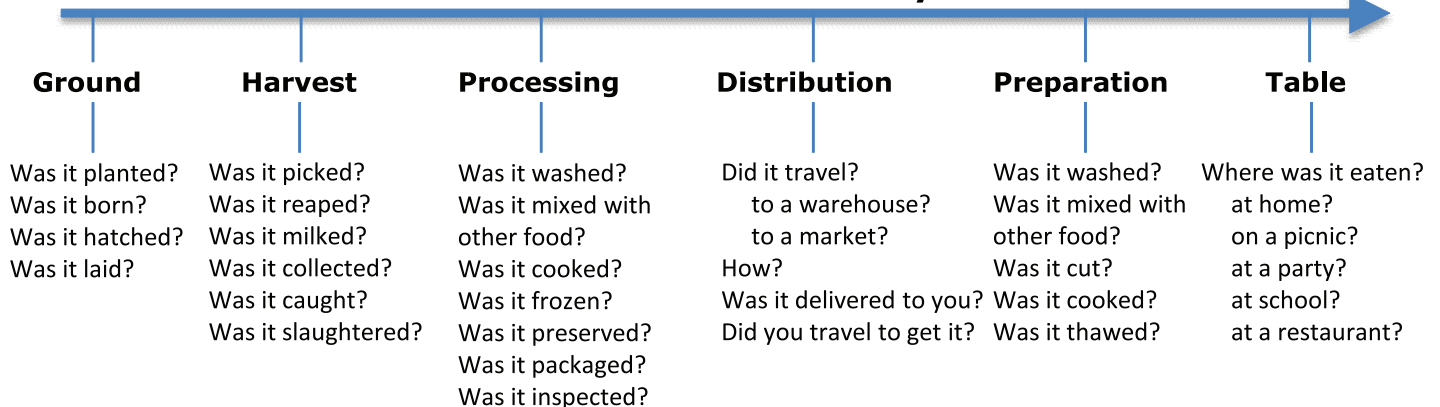
Each Team Member — Begin by looking around your own kitchen. What kind of food do you find there? Here are some things to look for:

- Dairy (milk, cheese, yogurt)
- Eggs (raw, cooked, dehydrated)
- Fruits or vegetables (fresh, frozen, dried, canned)
- Grains (rice, pasta, bread, cereal, seeds, nuts)
- Meat or seafood (fresh, canned, dried, smoked, or frozen)

Each Team Member — Make a list of 5 foods you found and how each one is stored. Now, find out how you got each one. Did you grow it yourself? Did you bring it home from a market or store? Was it delivered to you? Did you pick it from an orchard or garden? Did a relative, neighbor, or friend give it to you? Think about how each one was protected from contamination. Think about how each one was protected from spoiling.

As a Team — Next, take a look at each team member’s list. Talk about each food item on everyone’s list. Pick one food item for your team to research. Keep it simple; pick a food with fewer than 7 ingredients. You want to find out about every step your team’s food took in its journey from ground (where it was grown) to table (where it was eaten). You want to learn about all the possible contamination and spoiling problems. You will want to learn how these problems are detected and prevented now. Consider some of the questions in the Your Team’s Food Journey (below) as you explore all the possibilities. Learn as much as you can about each ingredient in the food your team chose.

Your Team’s Food Journey





As a Team — After you learn about your food’s journey from ground to table, search out how and where your food could become spoiled or contaminated. Choose one problem that your food faces and research it. Your team’s challenge is to create an innovative solution that prevents or solves the problem your team chooses.

Maybe you will find that your food is in danger from a natural attack by parasites, bacteria, or other microbes. Maybe the problem your food faces is man-made (like fungus or weed killers, a pesticide, or toxic waste), a foreign object (a stone, dirt, glass, metal), a wrong ingredient, or medicine from a sick animal that made its way into the food. How could the problem happen? Think about it. Some resources you may use to look for information are: reports, books, magazines, and websites. Consider conducting a survey. Check with professionals who work in and around your community. Use any research tools you have available. Be prepared to share your information sources.

While you are researching your food’s journey and contamination and spoiling problems, find out about a professional who is working to keep your team’s food safe. Did a scientist, veterinarian, or engineer help in the growing process? Did an inspector check it? Who stored, shipped, preserved, or packaged it? Who tested it? Was a government agency involved? Who decides what is safe and what is not safe to eat?

Create an Innovative Solution

Now that your team has decided on a contamination or spoiling problem, develop an innovative solution that will address the problem—a new idea or an improvement on something already being done. What is already being done to fix your team’s problem? What could be done? What will it take to make your team’s solution happen? How will your solution help protect your food? A great solution might take all the imagination and ingenuity your team can muster. It might seem so obvious that you wonder why the problem even exists.

And remember, the most important thing is to have fun.

Share with Others

Now, tell others about the problem you researched and exactly how your solution can help. You choose how to share what you’ve learned. Give a talk. Create a website. Perform a skit. Make a comic book. Rap. Create a poster. Pass out flyers. Write a poem, song, or story.

Think about who is helped by your solution. How can you let them know? Can you present your research and solution to lawmakers, doctors, engineers, or groups who already help with your problem? What’s the best way to teach your audience about the problem and solution? Your presentation can be simple or elaborate, serious or designed to make people laugh while they learn.

Present Your Solution at a Tournament

A list of the Project Awards your team can receive at a tournament and rubrics used by judges can be found at: <http://firstlegoleague.org/challenge/2011foodfactor>

To be eligible for Project Awards your team must have a live presentation that:

- Describes the contamination or spoiling problem your team chose to research
- Describes your team’s innovative solution
- Describes how your team shared its findings with others
- Uses media equipment only to enhance the live presentation



During your presentation, also be sure that your team:

- Describes the food your team chose and what you learned about that food's journey to your table
- Tells about at least one scientist, engineer, doctor, or other professional who is working on the problem
- Tells about the research your team did and the information sources that helped to define your problem and solution
- Can set up and complete your presentation in 5 minutes or less

Your presentation can include posters, slide shows, models, multimedia clips, your research materials you are limited only by your team's creativity. Remember, you want to leave a lasting impression

Need Help Getting Started?

The *2011 Food Factor FLL Coaches' Handbook* contains more information about FIRST® LEGO® League, the Food Factor Challenge, tournaments, judging, and awards.

Information and resources are also available online.

- At <http://www.firstlegoleague.org> you will find general information.
- At <http://firstlegoleague.org/challenge/2011foodfactor> you will find the Project rubric. It describes what tournament judges are looking for and how your team's project work will be evaluated.
- At <http://firstlegoleague.org/challenge/2011foodfactor> you also will find the 2011 Topic Guide and links to information sources that can help your team start your research.

If you have more questions, e-mail fillprojects@usfirst.org for Project support.