FIRST LEGO LEAGUE

TEAM MEETING GUIDE
DEMO VERSION

FIRST

LEGO education

Table of Contents and Session Summaries

How to Use the Team Meeting Guide

There are 12 sessions outlines in the ARCHITECTURE Team Meeting Guide. In general, plan for each session lasting 90 minutes. Each session is organized as follows:

A. The **Objectives** outline what each team should accomplish during the session.

B. The **Materials** list outlines the resources needed for the session. For more information on the materials you will need for your team, in a later section.

C. Each session has a series of **Tasks** that provides a step-by-step list of what the team should do during the session. These tasks include:

   a. **Getting Started:** Allow time at the start of each session for team(s) to gather their materials and get logged onto their devices.

   b. **Group Activities:** Each team will be split into two teams. They will alternate between experiences in the Innovation Project and Robot from session to session.

   c. **Share:** This occurs at the end of the session for groups to share what they accomplished within their teams.

   d. **Cleanup:** Time should be allotted at the end of each session for cleanup.

   e. **Next Session:** This section provides information at the end of each session to get them excited about what is coming up next.

D. The sidebar offers additional information to help you lead each session as successfully as possible. This section includes important instructions, requirements and tips.

Working as a Team

In this program, each team works together with their materials to create their Robot and design their project solution. Each team should be encouraged to work with their teammates, to listen to each other, take turns, and share ideas.

Each group will be asked to share at the end of each session. Each group should communicate what they've done, and record results and information learned from the other group as well. Sharing is an important way for teams to practice Core Values and have a complete understanding of their team's Robot and Innovation Project solution to the Challenge.
During each session, teams will experience the engineering design process. There is no set order for this process, and they may go through each part several times in a single session.

Working in Groups

For each session, each team will be divided into two groups. We call them Group 1 and Group 2, but you could call them by any name you want. Each group should complete only the sections which they are assigned since they are alternating between the project and Robot experience each session.

SESSION 2:
The Client

Objectives
Team members will:

➔ Complete their assigned LEGO Robot lesson.

➔ Explore and create a solution for the project spark scenario.

Materials
➔ Engineering Notebooks

➔ LEGO Education SPIKE Prime OR LEGO MINDSTORMS Education EV3 Set

➔ Innovation Project prototyping materials

TASK 1: Getting started (5 minutes)
➔ Gather project materials for Group 1 to use. (1)

➔ Assign each team a Robot set. (2)

The LEGO sets should already be set up following the top card in the bin. Make sure the batteries are charged, software is loaded on each device.

TASK 2: Group activities (70 minutes)
Group 2

➔ This group will complete the MINDSTORMS EV3 Straight Move Robot Educator Tutorial or SPIKE Prime Training Camp 1. (3, 4, 5, 6, 7)

Group 1

➔ This group will answer questions about the Project Spark 1 (Treehouse) in their Engineering Notebook. They will then brainstorm, sketch and label their own solution to the problem, and create a prototype using the materials you provide. They have only this session to create their solution for Project Spark 1. (8, 9, 10).

- You will need to provide the materials for them to use to create their prototype solution.
- Encourage groups to use various resources like the library, internet, and suggested Challenge-specific links.

1. See the list of suggested materials to use for Project prototyping. Teams can always use any additional LEGO bricks you have.
2. In a classroom setting, number and label the Robotic sets and assign each team one to be their responsibility for the entire season.
3. The Robot group will learn how to start out with their Robot.
4. Make sure each team member gets to control the tablet or device while going through the Robot lessons.
5. You could place members of the Robot group into roles:
   a. Programmer
   b. Builder
   c. Inventory Specialist
6. Have teams name their controllers and Robots.
7. Have teams use specific names on their individual programs.
8. You could place members of the project group into roles:
   a. Communicator
   b. Researcher
   c. Project Manager

Engineering Notebook Connection

Each teammate should complete page 23.

TASK 3: Share (10 minutes)

➔ Have each group share their progress and record notes in their Engineering Notebooks.

➔ Have each group identify Core Values demonstrated by team members (in own group or another group). (11)

TASK 4: Cleanup (5 minutes)

➔ Have Group 2 move their Robot and LEGO set to a designated storage area.

➔ Have Group 1 place their solution prototype in a designated display location or have them disassemble after sharing if the materials will be needed for the next session.

Next session

➔ Tell them that in the next session, they will complete their assigned LEGO Robot lesson. They will explore and create a solution for their project spark.

Sharing Prompts

For the Robot group...

- Describe main idea of the lesson.
- List / describe new programming blocks.
- Point out any new sensors used.
- Demonstrate / run the Robot to show actions.

For the Project group….

- Describe Project Spark (if applicable). Be sure to include the “Model, Expert, Client, Site” information for each Spark.
- List / Define new vocabulary.
- Show sketches and prototypes.
- List / describe the problem(s), constraint(s), solution(s) for each Project activity.

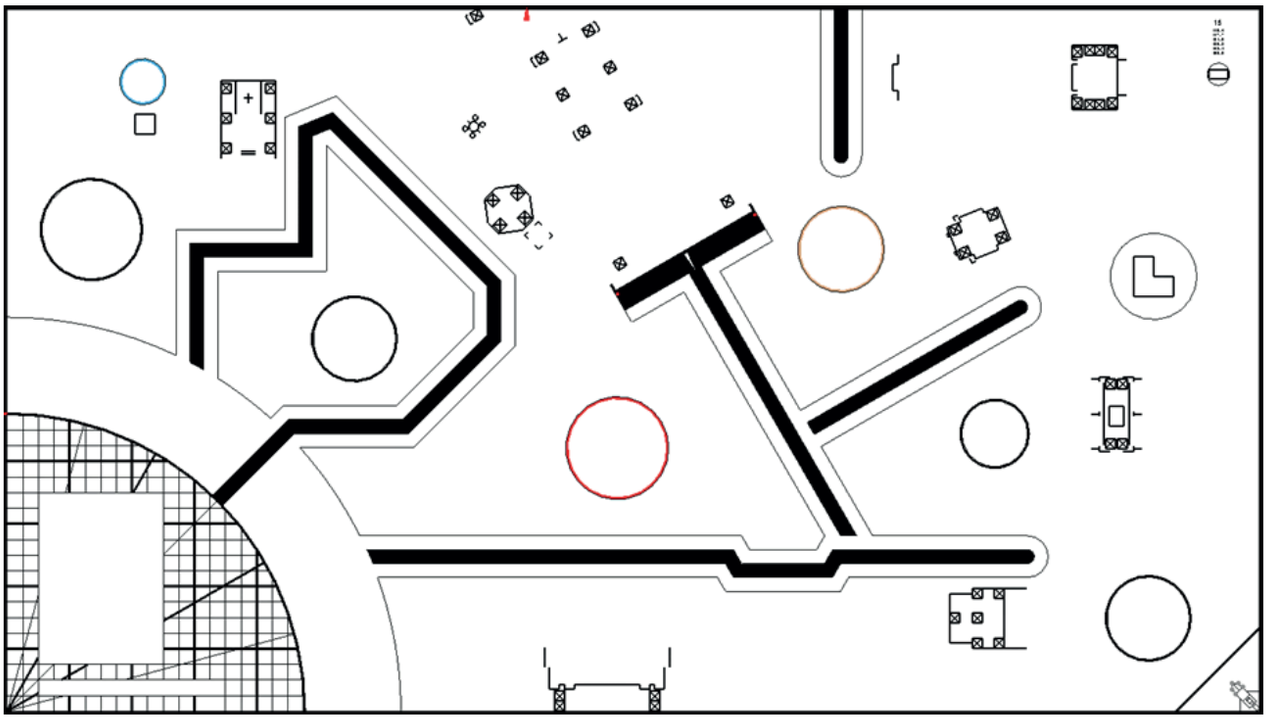
9. Groups should keep track of different problems and ideas they discussed and used. They will have to select a final problem to focus on, so thinking about this goal during each session is helpful.
10. Be sure the Project group fills out the ‘Model, Expert, Client, Site’ table. It’s OK if they select more than one expert for a Project Spark, and if they select an expert not featured in the Project Sparks.
11. If the team talks over each other, try using one of the following approaches:
    a. Appoint one leader who goes around the circle listening to each idea one person at a time.
    b. There is one key - anything such as a paperclip- and only the person with the key can talk.

Appendix

Robot Path Diagram

Program name _____

Create one Robot path diagram for each program you plan to run. Sketch the path the Robot will take as it executes the program. Each time the Robot stops or takes an action, use the diagram to show what the Robot is doing.



Program Description

Explain each path diagram by showing and explaining your code, pseudocode (written outline), flow chart or some other way.

Note: Make copies of this page as needed for teams.

Appendix

Robot Design Summary

Mechanics Summary

Robot Features What is your favorite? What is most innovative?	
Attachments Describe each one and its purpose.	
Motors What motors are on your Robot? What purpose do they serve?	
Sensors What sensors are on your Robot? What purpose do they serve?	
Strategy How did you choose the missions you worked on?	
Design Process What processes did you use to design your Robot?	
Core Values How were core values used throughout the creation of the Robot?	

Program Summary

What can your Robot do? List every program you plan to run during an event. Attach additional pages if needed.

Program Name	Mission(s) Accomplished	Programmed Robot Actions	Mission Success Rate
What is this program called in your Robot?	List the mission(s) your Robot will accomplish in the program.	List the types of actions performed in the program. List any programming commands like loops and functions.	How often do you achieve the mission(s)?

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Appendix

Innovation Project Summary

Problem What is the challenge that needs to be solved?	
Potential Solutions Can you make a solution better? Do you have an innovative approach?	
Constraints What limitations are there on your solution?	
Research Findings What information did you find on your problem?	
Sources These could include print and digital resources and information from an expert.	
Final Solution What did you choose as the solution you will present?	
Design Process What processes did you use to design your project solution?	
Design Presentation How will you present your problem and solution for the project?	
Core Values How were core values used throughout the creation of the project solution?	

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Appendix

Core Values Summary

How did your team use core values throughout the creation of the Robot and project? Describe and provide examples of how you demonstrated these core values.

Discovery We explore new skills and ideas.	
Innovation We use creativity and persistence to solve problems.	
Impact We apply what we learn to improve our world.	
Inclusion We respect each other and embrace our differences.	
Teamwork We are stronger when we work together.	
Fun We enjoy and celebrate what we do!	
Gracious Professionalism We encourage high-quality work, emphasize the value of others, and respect all.	
Coopertition We learn from and teach our teammates. When competing, we assist and enable others when we can.	

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Appendix

School Event Judging Rubric

This is the judging rubric to be used at school organized events. If your school or organization has signed up for a Class Pack, you will receive a School Event guide separately.

Team Number _____ Team Name _____

		Developing	Achieved	Exemplary (Achieved + the following)
PROJECT	Discovery	Limited development of problem and solution. No sources or experts identified.	**Adapted existing solution and clear problem.** **Identified sources for innovation project ideas.**	Well defined problem and unique solution. Used a variety of sources including an expert.
	Innovation	Solution identified already exists. Limited testing and development of idea.	**Created an original and innovative solution.** **Developed, tested and improved their idea.**	Well defined testing and evaluation of solution. Results were used to improve their idea.
	Communication	Presentation doesn't always flow well. Not clear how the solution would help others.	**Creative and engaging presentation by team.** **Showed how the solution would help others.**	Shared presentation with experts. Showed how the solution would help the world.
ROBOT DESIGN	Discovery	Limited testing of Robot design. Basic programs that worked inconsistently.	**Clear testing of Robot design.** **Effective use of basic programs.**	Well defined testing and evaluation of Robot design. Effective use of advanced programs.
	Innovation	Design, programs, and strategy are unoriginal, and have not been improved or modified.	**Modified or improved Robot design or programs.** **Clear strategy for solving game missions.**	Innovative Robot design and programs. Well-defined strategy for solving game missions.
	Communication	Limited understanding of Robot design. Unclear or limited game strategy.	**Clear understanding of Robot design.** **Clear strategy for 1-2 game missions.**	Clear understanding of Robot design and testing process. Clear strategy for most/ all game missions.
CORE VALUES	Discovery	Some team members participated. Team only beginning to explore Core Values.	**Full participation of team in entire Challenge.** **Clear exploration of Core Values.**	Participation extends beyond team and season. Application of Core Values during season and beyond.
	Innovation	1 or no Core Values used to overcome a challenge. Limited team autonomy with a lot of coach help.	**Used some Core Values to overcome challenges.** **Self-directed team with minimal coach guidance.**	Applied all Core Values to overcome challenges. Developed own team identity and autonomy.
	Communication	Respect and inclusion being developed. Developing fairness, integrity, and Coopertition.	**Demonstrated respect and inclusion of team.** **Understanding of fairness, integrity and Coopertition.**	Displayed inclusion and respect beyond team. Displayed Coopertition, fairness, and integrity.

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